

NOVEMBER, 1947

CHEMICAL PROCESSING

PREVIEW

The Magazine of
PROCESSING, ITS CONTROL AND DEVELOPMENT

In this issue

140 Articles

NEW SOLUTIONS OF PLANT PROBLEMS
6 actual "installation-type" articles
of "how it was done better".

MATERIALS . . . 17 reports on develop-
ments in materials that make for
better processing.

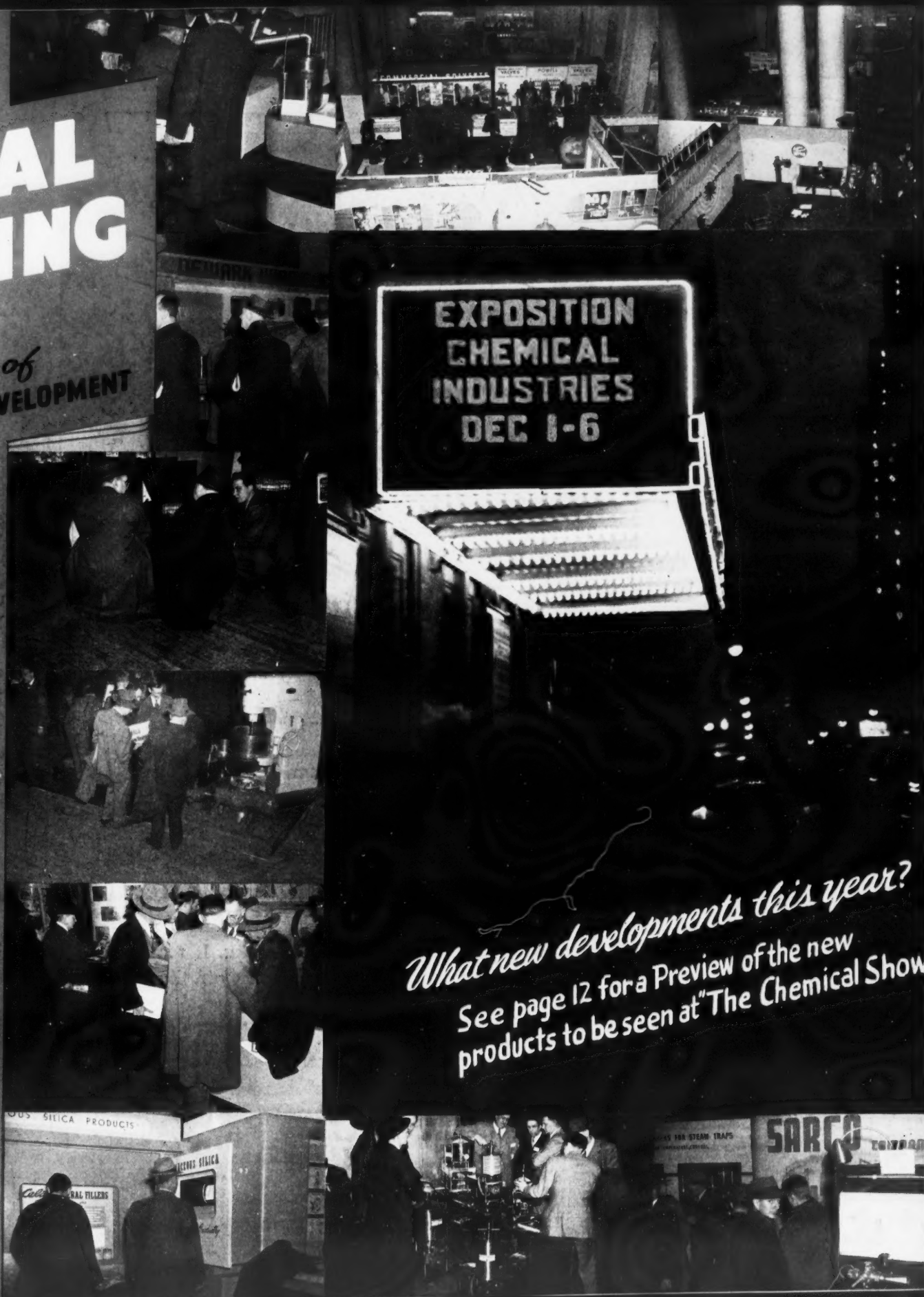
MATERIAL HANDLING . . . 9 examples
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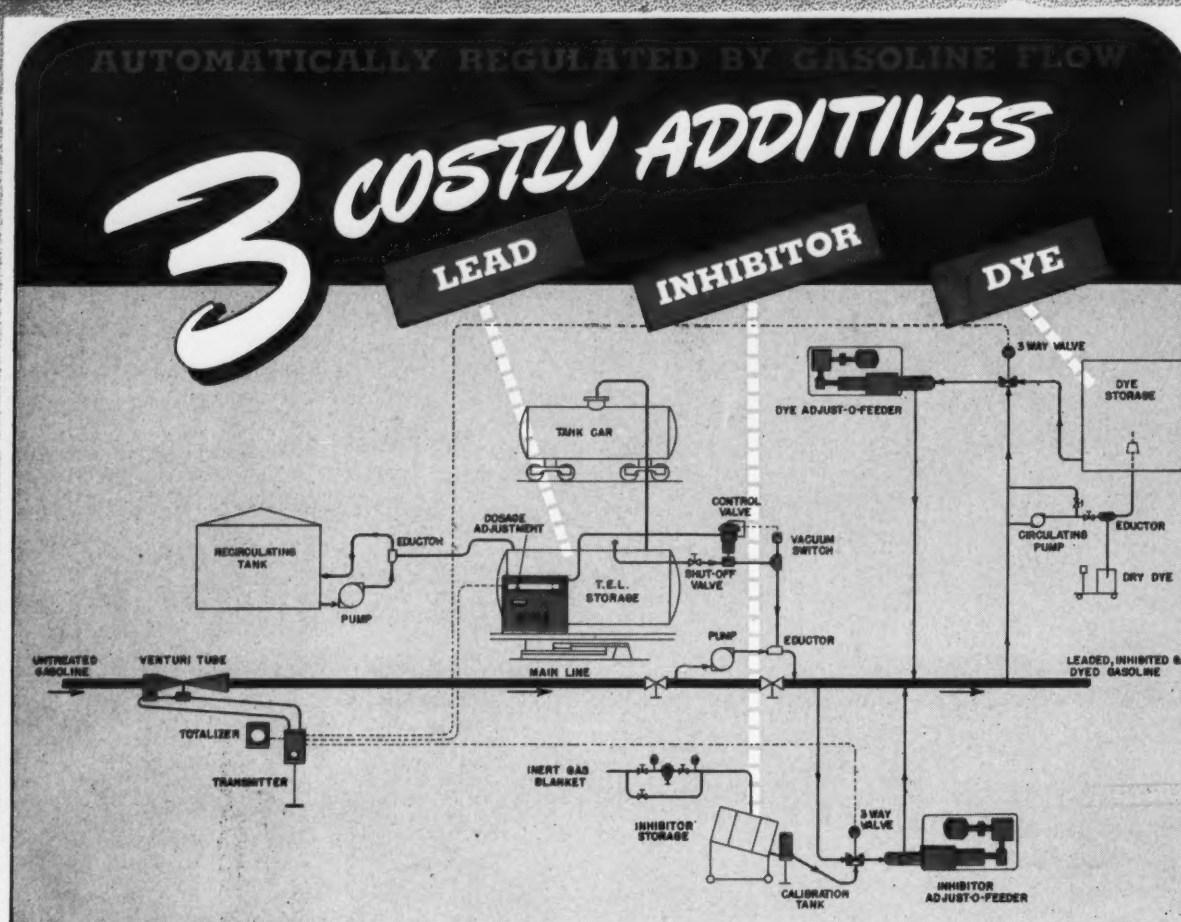
IDEAS . . . 6 Ideas gleaned from this or
other industries that offer possibili-
ties in chemical processing.

BRIEFS . . . 14 "quick looks" at inter-
esting articles in contemporary pub-
lications.

plus scores of new literature and
new product reports of top interest to
men who must operate plants.



What new developments this year?
See page 12 for a Preview of the new
products to be seen at "The Chemical Show"



This schematic flowgram illustrates %Proportioneers% Treet-O-Control method of regulating lead, inhibitor and dye injection to a flowing stream of gasoline from a low loss Venturi differential producer.

Additives are handled in concentrated form and are taken directly from the containers in which they are shipped. Transfer of the lead fluid is made from tank car to weigh tank through a vacuum eductor system.

This %Proportioneers% Treet-O-Control system eliminates pre-dilution requiring tankage, piping, circulating pumps and other accessories. It requires minimum space for equipment and assures maximum accuracy in the handling of costly additives.

Ask for further information and recommendations.

% PROPORTIONEERS, INC. %

Write to %PROPORTIONEERS, INC.%, 41 Coddling Street, Providence 1, R. I.

Technical service representatives in principal cities of the United States, Canada, Mexico and other Foreign Countries

"That's Interesting"

8500 Rare Chemicals Listed

Where do you think you could secure some parachlorobenzotrifluoride? A southern university needed it and a search of the file of over 8500 rare chemicals at the Armour Research Foundation, 35 W. 33rd St., Chicago showed that it was available in limited quantities at a mid-western university.

The National Registry of Rare Chemicals at the Armour Research Foundation was established in 1942 to provide free service in tracking down rare chemicals for industrial and educational institutions.

Recently the Registry has located such rare items as muconic and vinylacrylic acids, 2, 3-dihydroxynaphthalene-6-sulfonic acid, beta isopropoxypropionitrile, potassium tertiary butoxide and many others (Commonwealth Edison News Service).

★

1583 Ways to Use Glycerine

There are 1583 ways to use glycerine. We all get some in our daily diets, too. Our average intake of fat is 100 Gm. which liberates about 1/10 of its weight in glycerine.

★

Vitamins for South Africa

A new vitamin plant will soon be in operation at Simonstown, Africa, 13 miles from the Cape of Good Hope. Soup fin sharks and ling cod will provide the raw materials which will be put through the Solexol Process developed by M. W. Kellogg Co., New York, N. Y.

Over 90% of the original Vitamin A and D content of a crude fish oil is recovered in the concentrate through the use of liquid propane which continuously circulates in a closed system and separates the crude oil into fractions differing in molecular weight and structure.

★

Compact Calcium Chloride Dehumidifiers

A small dehumidifying unit using calcium chloride has a built-in electric motor and fan and will care for a room 20 x 20 feet. Solution formed drains into container under unit.

A similar unit features a built-in drain pan that will utilize a float to shut off the motor when pan is full. Both are designed primarily for household use. (As reported in Dowflakes-Dow Chemical Co., Midland, Mich.)

(Continued on next page)

For more information on product at left, specify CP 2977 . . . see information request blank between pages 2-3.

"That's Interesting"

Research on Gas Behavior at University of Pennsylvania Sponsored by Engineering Foundation

Research to aid in the organizing of data on standard properties of gases and gas mixtures is being sponsored as a project of the Engineering Foundation, 29, West 39th St., New York 18, N. Y. Experimental studies are being made at the Thermodynamics Research Laboratory of the University of Pennsylvania. It is believed that the thermodynamic properties of gases can be calculated with high accuracy and thermodynamic consistency by the use of recent developments in recording mechanical theory.

The first phase of the research program calls for a systematic recalculation of zero-pressure properties from the best available spectroscopic data. Such data are given at too wide intervals of temperature to make corrections by any other method. It is expected that as the work develops there will be an increasing number of cases in which the spectrographic data themselves will prove inadequate. In order to obtain new data many sources will be used from industrial and university laboratories. After suitable zero-pressure properties have been obtained, the next step will be to determine the corresponding properties at finite pressures.

Traffic Light System Prevents Corridor Collision; Operates by Radio Waves

A corridor traffic control system now in use in General Electric's Research Laboratory building in Schenectady, N. Y., offers interesting possibilities, industrially and otherwise.

As a person walks along a corridor on the third floor of one of the laboratory buildings, his motion is detected by a microwave transmitting-receiving set, which operates red and green lights on the opposite wall of the corridor visible to persons leaving offices and workshops along the passageway. Thus, persons about to enter the corridor from offices or work rooms know if the corridor is in use and if special care must be exerted in carrying delicate instruments, chemicals or large objects into the corridor. Collisions are thus avoided.

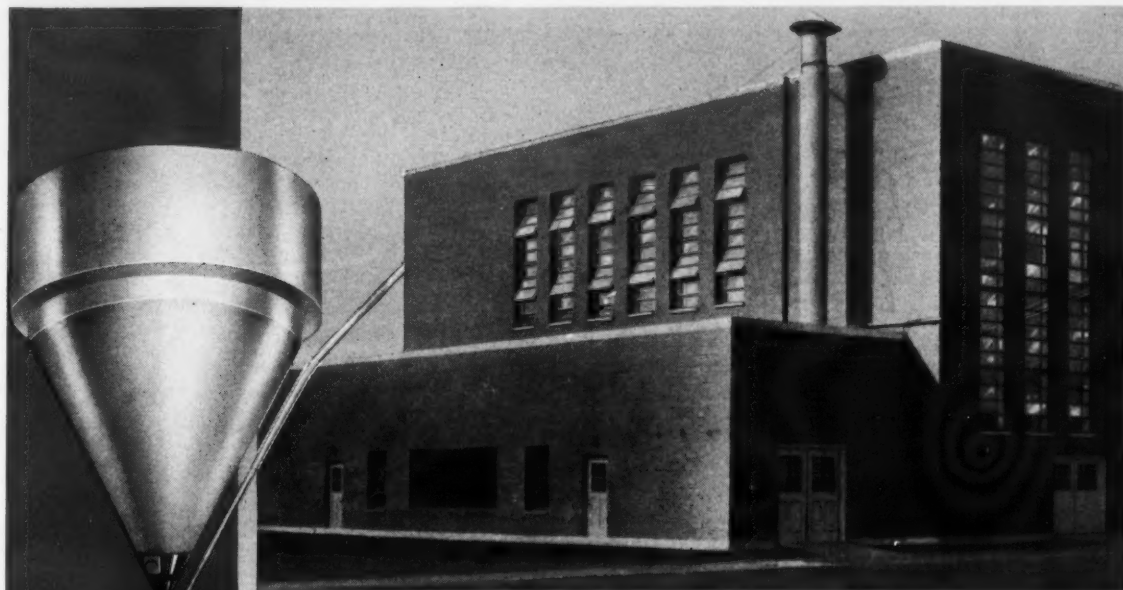
The principle of the VT fuze, which during the war was a military secret second only to the atomic bomb, is utilized. Current changes which in the VT fuze caused shells to explode, here cause red lights along the corridor to turn on. If the person walking in the corridor stops to chat, lights turn green, which condition always prevails when there is no motion to detect. The device is so sensitive, that it will be activated if a person is standing in the corridor and so much as waves his hand in the direction of the reflector of the microwave unit.

U. S. '47 Sulfuric Acid Production Rate Estimated at 10 Million Tons

The production of sulfuric acid in the United States in 1939 was slightly more than 5 million tons annually (100 per cent H_2SO_4 Basis). The February 1947 production indicated that a yearly rate of over 10 million tons had been obtained. Sulfur is still the leading raw material in the United States (75% in 1945), with pyrites, pyrrhotite, and coal brasses second (15% in 1945) and zinc and copper ores third (9% in 1945). The modern postwar contact sulfuric acid plant is fundamentally the same as ten years ago. However, so many improvements have since been introduced that it would not be recognized as the same process by the layman. Much effort has been expended on simplification, ease of operation, lower maintenance and higher yields.

The modern plant designed for the use of high purity sulfur as the exclusive raw materials today often referred to as a raw gas or hot gas type plant and may be constructed almost entirely of steel, iron and brick. No lead is required. (Summarized from article — "The Modern Postwar Contact Sulfuric Acid Plant" by J. C. Hutchinson, Monsanto Chemical Co. as published in "Powerfax"-Elliott Co., Jeanette, Pa.)

(Continued on third cover)



Swenson Spray Drying

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to chemicals with widely differing characteristics

Where Swenson Gray-Jensen spray drying can be applied to chemical processes and products, it offers certain important advantages:

1. Instantaneous conversion of liquids to solids in a single pass
2. Conversion at low temperatures
3. Solids delivered in the form of powders that require no crushing or sifting
4. Prevention of both contamination and chemical loss by a closed system
5. Low cost production

Since the Swenson Spray Dryer Research Plant began operations early this year, tests have been made almost daily—in co-operation with numerous concerns in the process industries—to determine the practicability of spray drying chemical, food, and dairy products. The list at left represents only a few of the diversified chemicals which have been successfully dried on a full-scale operating basis.

If you have a product which can benefit from the advantages of spray drying, ask us at once for a consultation.

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SWENSON EVAPORATOR CO.

Division of WHITING CORPORATION Harvey, Ill.

Export Department, 30 Church Street, New York 7, N. Y.



When inquiring specify CP 2978 . . . see information request blank, pgs. 2-3



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Quality



This is the sixty-first birthday of The Society of the Sigma Xi, Scientific Research Society of America. Down through the decades, its Greek letter-key has become symbolic of the highest ideals of the scientific world.

Baker & Adamson is equally proud that for a like number of years it, too, has been serving American sciences—particularly in the field of chemistry. In each generation, B&A Reagents have gained the full confidence of industrial and research chemists alike.

Today, Baker & Adamson continues to serve . . . and to set the pace in chemical purity . . . just as it has since 1882. The B&A "Shield of Quality" identifying its products is accepted throughout the chemical world as a symbol signifying highest quality, purity and uniformity in laboratory chemicals.

To B & A, such recognition in the past is a responsibility to be upheld in the future.



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SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

* Complete stocks carried here.

When inquiring specify CP 2979 . . . see information request blank, pgs. 2-3

CHEMICAL PROCESSING PREVIEW

The Magazine of
Processing, Its Control and Development

VOL. 10 NOVEMBER, 1947 NO. 11

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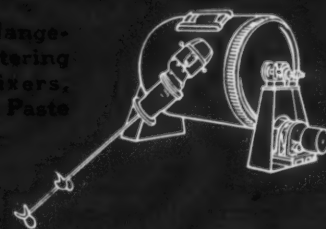


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Better-Built EQUIPMENT FOR THE PROCESS INDUSTRIES

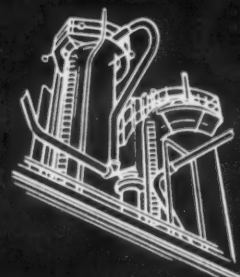
P

Mixing Equipment of All Types: Flange-Mounted, Portable, and Side-Entering Agitators, Double-Ribbon Mixers, Double Cone Blenders, Paint and Paste Mixers, Ball and Pebble Mills.



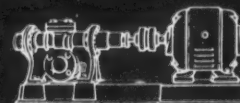
D

Plate-Fabricated Equipment: Dryers, Heat Exchangers, Impregnators, Condensers, Stills, Fumigators, Vulcanizers, Solvent-Recovery Plants, Autoclaves, Fractionating Towers, and All Types of Code-Built Pressure Vessels.



Q

A complete line of screw, rotary, and centrifugal pumps specially designed and built for the process industries. Quimby originated the screw pump and for more than fifty years has been known as the leader in chemical pump design and manufacture. Remember: There is no substitute for a QUIMBY.



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When inquiring specify CP 2980 . . . see information request blank, pgs. 2-3

FILTERING HOT, OILY CONDENSATE SAVES \$4.30 PER DAY IN FUEL

Savings of \$145.00 a year also made in boiler feed treatment chemical

New Solutions OF PLANT PROBLEMS

PROBLEM — The Taunton, Mass., Gas Light Co. had been discharging hot condensate from exhaust steam into the river. This was done because of the high concentration of oil from engines, compressors and pumps, which gave it the appearance of dilute milk. The company wanted to gain the savings that could be made by using this exhaust steam to heat gas holders, buildings, feed water and for other miscellaneous low pressure services.

The use of line-type oil separators in the individual steam exhaust lines was not considered feasible because of the large number of individual units.

SOLUTION — A pair of pressure filters with anthracite beds was installed. Because water in the river used for boiler feed is highly contaminated with sewage, one of the filters normally handles river water. The filters are so piped that both may operate in parallel to clarify oily condensate when desired.

When in oil removal service the filters are preceded by an automatic chemical feed which adds minute quantities of soda ash or other alkali to the condensate, together with aluminum sulphate.

The river water is filtered without coagulant as it is felt that there is sufficient removal of heavy suspended matter to provide water satisfactory for boilers.

For approximately six months of the year condensate passing through the filters will be from 7000 to 11,000 lbs. per hour for 24 hours a day. Heat recovery or fuel saving for this period can safely be based on clarifying about 7,000 lbs. per hour at 200 degrees.

RESULTS — Based on the condensate replacing cold water at 60 degrees, the heat saving is approximately 23,520,000 Btu. per day. The saving in dollars based on fuel with an average heat content of 13,500 Btu. costing \$5 per ton and a boiler efficiency of 75% is \$5.80 per day. This is for six months of the year. The saving for the other six months is about half the amount for the first period.

In addition, savings of \$145.00 a year are made in boiler feed treatment chemical. In contrast with the cost of power for condensate pump operation and the cost of filter coagulant, it is conservatively estimated that the entire equipment will amortize itself completely within a three year period.

COCHRANE CORP., Dept. CP, 17th St. below Allegheny Ave., Philadelphia 32, Pa.

When inquiring specify CP 2981 — see handy form pages 2-3



Two vertical pressure filters — coagulant feed at left

Mixers Overcome Color Variation in Batch Dyestuff Production

Special mills; vertical mixers provide continuous interbatch uniformity; system also applicable to glue chips, plastics, etc.

PROBLEM — A dyestuffs manufacturer was required to secure a uniformly colored product. As operations were carried on with the usual batch method, several batches had to be blended to obtain the desired uniformity.

SOLUTION — A battery of four 150 cubic foot vertical mixers, and four 12 inch disintegrating mills were installed. Some of these are to be seen in the accompanying illustrations.

The stock, an organic dyestuff, just emerging from a dryer, is first passed through a 12 inch mill equipped with special plates, for the purpose of breaking compacted lumps without excessive temperature rise. The outlet of this mill is fitted by means of a properly vented surge hopper to the horizontal screw of the vertical mixer. This constitutes the assembly which assures continuous interbatch uniformity.

This same approach has proven the ideal solution in

CHEMICAL PROCESSING Preview



Vertical blending system uses 150 cu. ft. mixers

a number of unrelated situations. It has been particularly attractive in several installations where comparable reservoirs with capacities up to 300 cubic feet are blending successive batches of a granular product such as glue chips and thermoplastic stocks.

RESULTS — This blending system provides adequate reservoir capacity to insure inter-batch uniformity at all times. The power consumption is low compared with conventional horizontal type units. Minimum floor space is required. The equipment is economical and a battery of these units can be installed as a reserve for specific formulas, eliminating cleaning and the possibility of cross contamination.

SPROUT, WALDRON & CO., Dept. CP, Muncy, Pa.

When inquiring specify CP 2982 — see handy form pages 2-3

★

Series of Transparent, Thermosetting Resins Useful for Laminating, Casting, etc.

12-page technical report describes a series of clear, transparent, fast-curing thermosetting resins for laminating, impregnating, casting, molding and use as adhesives. They are said to be available at almost any viscosity with differing adhesive qualities, capable of curing "under any practical operating condition."

Literature divides series into 5 groups, covers range of resins and resin auxiliaries available in each group, and presents general information common to all. Physical, chemical and electrical properties, heat stability, etc., are tabulated for the various groups. Storage stability, curing characteristics, tank life, etc., are described in general. Members of the series differ in strength, hardness, flexibility, water absorption and other properties. Technical Report, Selection 5000 Resins.


PITTSBURGH PLATE GLASS COMPANY, Dept. CP, 632 Duquesne Way, Pittsburgh 22, Penna.

When inquiring specify CP 2983 — see handy form pages 2-3

NOVEMBER, 1947

When the doors open on the greatest exhibition in the history of the Chemical Industries at New York's Grand Central Palace on December 1—be sure to visit Booth 291.

There, Schutte and Koerting Company will display the latest developments in Flow Rate Instruments and Industrial Jets—*ideas* for your future use.


Among these products you will see the newest  Rotameters, operating models of a Tank Mixing Eductor and Fume Scrubber, a Hydraulically Operated Jet Eductor actually entraining and conveying granular solids, as well as a packaged Hydro-Steam Vacuum Pump entraining air.

Close inspection of these "ideas on display" may well result in the solution to some of your present process problems.



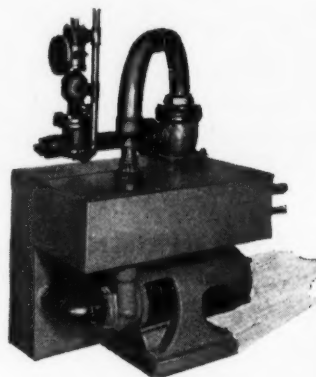
 Universal Rotameter



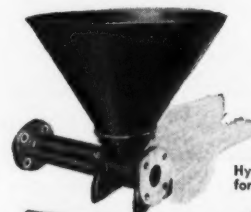
 Electronic Recording Rotameter



 Specific Gravity Indicator



 Hydro-Steam Vacuum Unit



Hydraulically Operated Eductor
for Entraining Granular Solids



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REMEMBER — It's Booth 291

When inquiring specify CP 2984 . . . see information request blank, pgs. 2-3

How Reliance V*S can help you meet the greatest challenge industry has ever faced

WAGES go up and up, along with materials and other manufacturing costs. But to keep America prosperous, prices cannot be permitted to spiral to the point where large numbers of consumers are forced out of the market. How to prevent this presents the greatest challenge industry has ever faced.

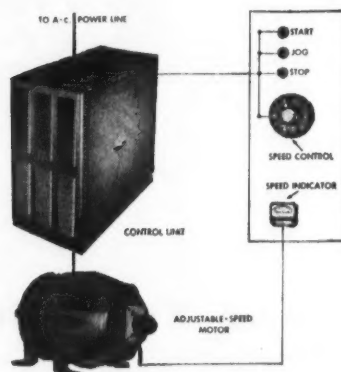
One sound answer is increased production through the use of more efficient machinery and methods. And this is where Reliance V*S can help you. *We have yet to find the industry where the V*S Drive cannot improve the quantity and quality of output, while lowering costs.*

A Reliance Application Engineer will survey your operations, then show you where and how you can benefit most through use of V*S—the All-electric, Adjustable-speed Drive, operating from A-c. Circuits. Just phone the nearest Reliance representative or write us direct for Bulletin 311.

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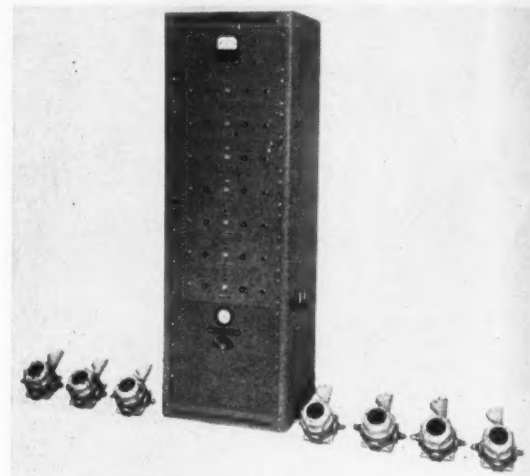
RELIANCE ^{A-C} _{DC} MOTORS

When inquiring specify CP 2985 . . . see information request blank, pgs. 2-3

New Solutions OF PLANT PROBLEMS

Analyzer Detects Presence of Combustible Gases

Determines leakage of Propane in piping joints to guard against possible explosions



Combustible gas alarm system

PROBLEM — A large manufacturer had an installation of piping through which Propane flowed. This gas was used in a processing operation. Piping was located in a 100 foot trench as well as in the building where the processing operation was carried on. Leaks might occur, producing an explosive mixture, thus creating a hazard.

SOLUTION — A gas alarm system was installed which had seven points where samples could be taken. Six samplers were located in the trench and one below the elbows where the piping turned upward into the building.

Gas samplers or analyzing units were housed in explosion-proof conduits and placed within the trench so that any change in gas-air concentration was almost instantly analyzed under the temperature conditions at which the hazard existed. Sampling lines were 6" long.

As space for the control system was limited, a multi-point unit was installed. Balancing of all the circuits was accomplished from the centralized unit, where each of seven control panels was connected with its own remote analyzer head as a complete electrical circuit with its own power supply. Thus in case of failure of one circuit, protection was still assured in the other six areas. These separate circuits were consecutively placed in contact with the control panel by means of a program timer which makes the complete tour of the seven analyzing circuits in 70 seconds.

On the control panel, the concentration of Propane-air can be read on a meter, also contacts are made with the audible alarm signal in the area causing signal, and in the control cabinet. A red pilot lights on the analyzer panel connected with the remote analyzing head, causing the signal to show the area in which the leak occurs.

RESULTS — Possibility of explosion was eliminated since the audible signal is given at such a low concentration of Propane that a flame would not be self-propagating. A signal at such a low concentration permits

CHEMICAL PROCESSING Preview

action to prevent the developing of an explosive mixture.

If a source of ignition occurs, contacts within the control cabinet are made with fire prevention systems — such as CO₂, water fog etc., whereby the hazardous area can be "flooded."

DAVIS EMERGENCY EQUIPMENT CO., INC., Dept. CP, 45 Halleck St., Newark 4, N. J.

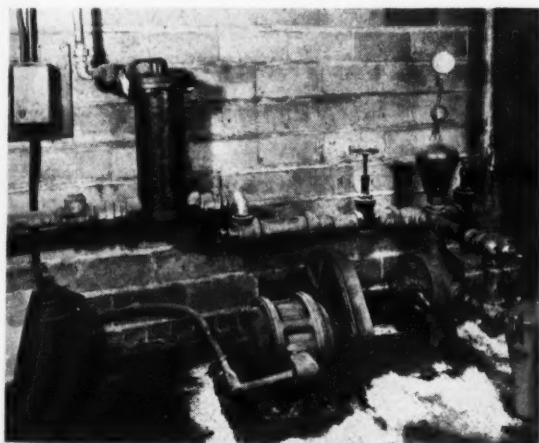
When inquiring specify CP 2986 — see handy form pages 2-3

★

Strainer Prevents Repetition of Damage that Cost \$8070.50

Piece of metal entering pipeline scored pump gears; strainer now traps foreign matter

PROBLEM — Pump used to handle roof coating liquid was seriously damaged by a piece of brittle metal, and 10 days of production time was lost. A fair estimate of the production is \$100.00 an hour, bringing the total figure for the shut-down to \$8000.00, with the repairs adding \$70.50. Gears and pump had been scored and shaft sprung sufficiently to necessitate its rejection.



Strainer "stands guard" at line between storage tank and pump

SOLUTION — Strainers of the proper type, properly installed, now afford protection of equipment. On lines carrying petroleum by-products, as in this case, strainers may be able to perform numerous beneficial functions. When impurities are kept out of the stream, the product quality is improved. (Duplex strainers may be used where continuous operation of the line is imperative.)

Entrainment arises from a number of sources. Rust and pipe scale are common and increase with the aging of the system. Welding oxide, a by-product of welding, forms on the pipe surfaces along the welding bead and may flake off and enter the stream. Valve and pump packing, pipe shavings and sand are other common, highly abrasive elements. There is an opportunity for sediment to enter the stream as a result of piping system repairs.

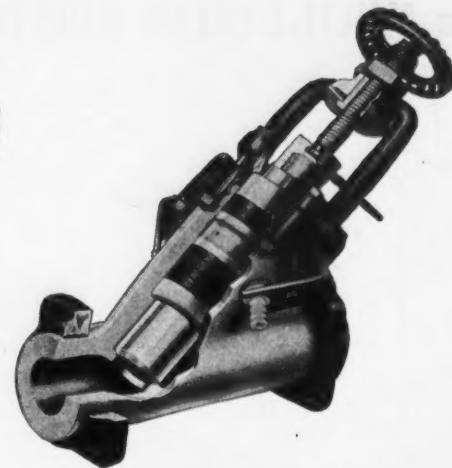
RESULTS — Pipe lines are protected with a minimum of pressure drop, and pump is protected against damage from foreign matter.

J. A. ZURN MFG. CO., Dept. CP, Erie, Pa.

When inquiring specify CP 2987 — see handy form pages 2-3

NOVEMBER, 1947

Why Non-Porous



Chemical Porcelain for Corrosive Liquids?

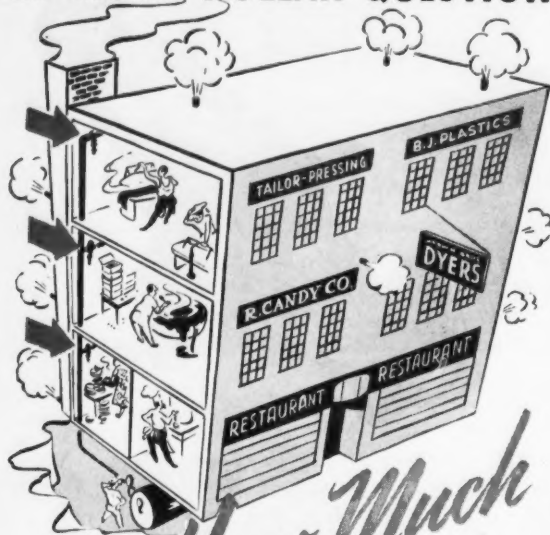
THE ability of Lapp Chemical Porcelain to resist corrosion is due in large measure to the non-porous nature of this ceramic material. Not only is this material inert to most corrosive acids, but its non-porous characteristic means that there is no absorption, no capillary forces from absorbed liquids, no exposure of the material other than the surface to corrosion. At Lapp "vitrified" and "non-porous" are not loose or relative terms. They refer to a Lapp ceramic material which can withstand the routine dye-immersion test: exposure of a test sample to a penetrating dye under pressure of 100,000 lbs./in.² for a 24-hour period without trace of penetration.

Valves and other processing equipment of solid Lapp Porcelain have brought dependable operation and laboratory purity to hundreds of chemical processing systems. Write for literature. Lapp Insulator Co., Inc., Process Equipment Division, Le Roy, N. Y.



—When inquiring specify CP 2988 . . . see information request blank, pgs. 2-3—

The MULTI-DOLLAR QUESTION:



How Much Steam

**DOES EACH
TENANT
USE**

Builders Shuntflo Meters give the correct answers . . . tell exactly where and how much steam is being used — provide accurate totals in pounds or cubic feet of steam

consumed by individual departments, tenants and processes. All flow is metered — open end steam lines, unrecovered flow, and heavy overloads. The Shuntflo is self-contained, requires no electricity, mercury or clocks and installs in any line up to 12" as easily as a valve. Metering all distribution and main lines with Shuntflo is the sure way to tell where your steam is going!

For Bulletin 349, address Builders-Providence, Inc., (Division of Builders Iron Foundry), 47 Coddling St., Providence 1, Rhode Island.

BUILDERS PRODUCTS

Venturi, Propelloflo and Orifice Meters • Type M, Flo-Watch and Flo-Gage Instruments • Shuntflo Steam Meters • Kennison Nozzles • Chronoflo Telemeters • Conveyoflo Meters.

BUILDERS PROVIDENCE
Instruments

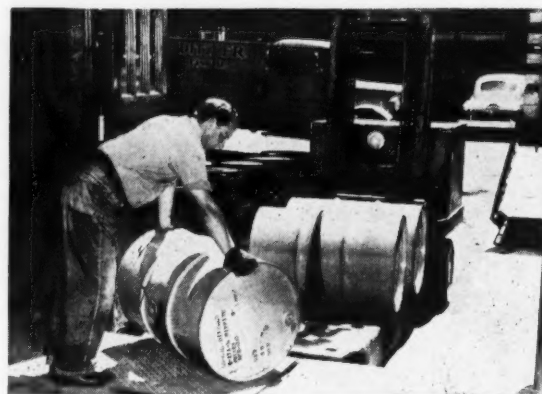
When inquiring specify CP 2989 — see handy form pages 2-3

New Solutions OF PLANT PROBLEMS

Trucks Unload Raw Materials, Move Finished Products, Spot Cars, Plow Snow

Spark-enclosed construction of electric trucks permits use where atmosphere and materials are fire hazards

PROBLEM — Some years ago the Ditzler Color Division of the Pittsburgh Plate Glass Co. was faced with the handling of ever-increasing quantities of materials. These included incoming raw and pre- or semi-processed materials. The quantity of outgoing materials or finished products was likewise increasing. The equipment to handle this complete job had to be extremely flexible and rapid of operation. It had to be of a type that would permit its easy extension into and around the various plant buildings and to those that would be added from time to time. Material would have to be handled from freight cars or trucks into the warehouse or to yard storage as well as from building to building. Finally, of paramount importance was the danger of fire that might originate from the equipment, the materials, containers or a combination of these.



Trucks move drums of materials rapidly to and from loading platform

SOLUTION — Storage-battery-powered industrial trucks of the highlift platform type were recommended. Four such trucks were put in service. These have been utilized to carry material on skids between the receiving and storage and processing areas; for movement of finished material into temporary or pre-shipment storage, and in the loading of highway trucks for shipment of finished products.

An expansion of the system is being made with a view to palletizing operations both in storage and in shipment. This system will use a fork truck both in buildings and in the yard.

Although these battery-operated trucks are used to a large extent out-of-doors, their spark-enclosed construction permits operation in areas where fire hazard would bar an exposed spark or other source of ignition of flammable gases or materials. Typical of the flexibility of these trucks in a variety of services is their use with snow-plow attachments and in moving and spotting freight cars.

ELECTRIC INDUSTRIAL TRUCK ASSOCIATION, Dept. CP, 29-28 Seventh Ave., Pittsburgh, Pa.

When inquiring specify CP 2990 — see handy form pages 2-3



**GREATER EFFICIENCY!
MORE ECONOMY!**

WHY BE SATISFIED WITH LESS?

You can save time, reduce breakage and rejects, step up production and reduce plant operating costs by installing an efficient A-F Engineered Conveyor System in your plant! Whatever your handling needs, A-F Engineers can show you how to bring "endless stream" efficiency to your production lines. Write, without obligation, today!

THE ALVEY-FERGUSON COMPANY

18 Disney Street Established 1901 Cincinnati 9, Ohio
Offices in Principal Cities: Coast-to-Coast



When inquiring specify CP 2991 — see handy form pages 2-3

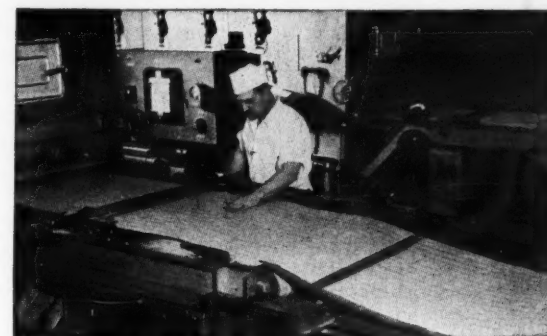


Photo Courtesy Ry-Krisp Division, Ralston Purina Company

RY-KRISP IS BAKED MORE UNIFORMLY With Help of Micromax Automatic Recording

A Micromax Recorder used on each of two ovens for baking Ry-Krisp shows, on the same chart, temperature at 14 different oven stations, and speed of the oven conveyor, calibrated in "Minutes Baking Time".

The makers of Ry-Krisp say that "centralized recording makes for better quality and more uniform product, and helps to eliminate human errors in controlling."

For further details, request Catalog N-33A.



Jrl. Ad N-00-665(1a)

When inquiring specify CP 2992 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

Adequate Water at Right Temperature

Turbine pumps in drilled wells supply 125 gpm continuously from 175' level

PROBLEM — Nationally known company had the problem of inadequate, irregular water supply of varying temperature which it secured from a dug well. Yield of 100 gpm would have to be secured to justify cost of drilled well and pumps.

SOLUTION — After drilling a well it was decided that another would be required. Two deep well pumps were installed.

The dug well was not abandoned however. To utilize it a two ball bearing centrifugal pump was installed to pump to a common discharge line with one of the deep well turbines. Then, in order to insure against any failure due to excessive load on the cooling coils, it was planned to connect the system water main as an auxiliary.

Direct connection of the private system to the city water main is not permitted under local regulations. Therefore, a 500 gallon vertical steel tank was installed in which a constant water level is maintained by a float valve. From the tank, water is supplied when required to the pressure system by the pump mentioned previously. To furnish pressure water and storage, a 5000 gallon tank was installed in the same pump house. Controls for the pump consist of a water level control Type PW, a 2 pump controller which regulates the air pressure, starts one deep well turbine at a predetermined pressure drop and starts the other turbine and shallow well pump at another pressure drop. If the pressure (and the tank water level) continues to drop, a float control starts the city water pump and raises pressure in the tank.

RESULTS — The total yield from the two drilled wells yields 125 gallons per minute. After a year of service it is reported that water supply is satisfactory in all respects: quantity, temperature, etc. is at all times satisfactory.

DEMING COMPANY, Dept. CP, Salem, Ohio.

When inquiring specify CP 2993
— see handy form pages 2-3

For more information on product at right, specify CP 2994
... see information request blank between pages 2-3.

From LABORATORY to FULL SCALE PRODUCTION

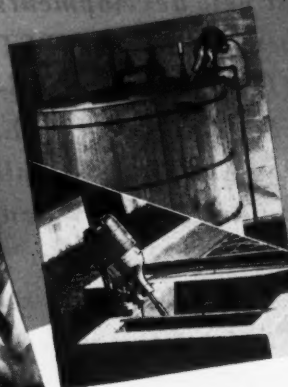
WITH

Process Adapted Agitation



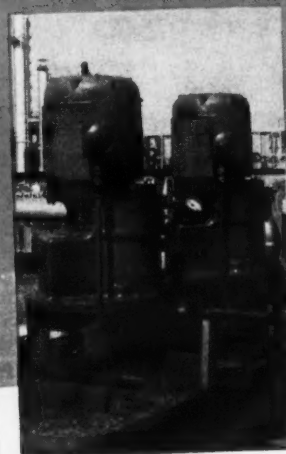
300 cc to 5 gallons

Laboratory mixers are invaluable for pre-pilot plant experiments, small production batches, dissolving chemicals, etc. Illustrated above is a laboratory mixer used on a one-liter beaker.



5 to 3000 gallons

Lightnin Portable Mixers are used for both continuous and batch operations. The upper illustration shows mixer in a standard 600 gallon wooden tank. Lower installation shows use as a continuous flash mixer for industrial waste disposal.



25 to 50,000 gallons

Top Entering Mixers answer requirements for open tanks and for mixing in pressure or vacuum tanks. Above is a Top Entering-Turbine installation showing part of a series of mixers each handling about 10,000 gallons.



1,000 to 5,000,000 gallons

Side Entering Mixers are for use on large tanks, for tanks where tops must be kept clear or where head room is limited. This small gasoline blending tank is equipped with only a 5 HP mixer, blending all components in 1 to 2 hrs.

There's a vast difference in the problem of mixing 300 cc and 5,000,000 gallons of liquid and there is just as much difference in the equipment to do the job. Mixing Equipment Company can supply mixers to answer the requirements of these widely divergent quantities and all quantities in between. And every piece of equipment is specifically recommended for each individual job!

Mixing Equipment Company Engineers are prepared to help you apply Process Adapted Agitation to any operation involving the controlled recirculation of liquids to produce physical changes, as included in the following table. Mixing Equipment Company studies each individual operation, giving full consideration to size and shape of tank, power consumption, viscosity and specific gravity of fluids, time element and all other factors effecting the results. Recommendations are backed by over a quarter of a century of experience and development—exclusively in the field of liquid agitation.

MIXING EQUIPMENT CO., INC.

1085 Garson Ave., Rochester 9, N. Y.

Blending Miscible Liquids	Mixing Immiscible Liquids	Crystal Size Control	Gas Absorption & Dispersion	Suspension of Solids	Heat Transfer
Simple Mixing of soluble liquids as in reducing concentration.	Washing of Liquids Extraction Contacting Caustic Treating Emulsions	Precipitation Evaporation Systems	Hydrogenation Aeration Gas Scrubbing Chlorination Gas Washing	Slurries Slaking Lime Suspension of: filter aid, activated carbon, Fullers Earth, Crystals while dissolving.	Still Evaporators Reactor Vessels Heating Cooling



SEND NOW!
FOR INSTRUCTIVE LITERATURE

You should have these bulletins in your files. They contain valuable reference data available from no other source.

MIXING EQUIPMENT CO., INC.
1085 Garson Ave., Rochester 9, N. Y.

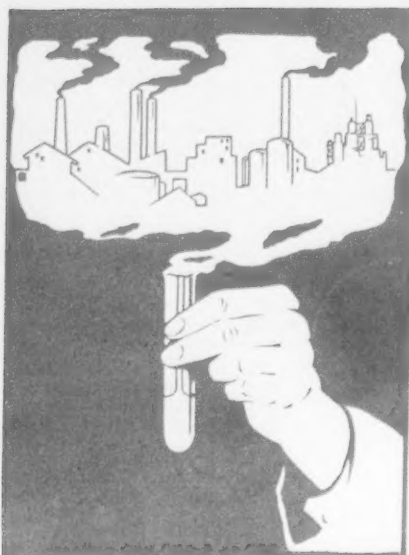
Please send me the literature checked:

- ☐ B-66 and B-76 Side Entering Mixers
- ☐ B-68 and 68B Permanently Mounted Mixers for Pressure Vessels and Open Tanks
- ☐ B-75—Portable Mixers (Electric and Air Driven)
- ☐ B-77—Laboratory Mixers
- ☐ Mi-11—Operating Data Sheet

Name _____
Title _____
Company _____
Address _____



NEW DEVELOPMENTS to be seen at the CHEMICAL EXPOSITION — *A Preview*



Here's a "quick look" at new developments that will be seen at the TWENTY-FIRST EXPOSITION OF CHEMICAL INDUSTRIES, GRAND CENTRAL PALACE, Dec. 1 to 6, 1947. The Editors asked all exhibitors for brief descriptions of new products they will present at "The Show". Here is a digest of all such information received prior to closing date of this issue of CHEMICAL PROCESSING Preview.

Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

SELF-PRIMING PUMP

A visual demonstration will show the operating principle of this new self-priming pump.

D-C POSITIONING AND INDICATING EQUIPMENT

Operation of the receiver and transmitter used in this system will demonstrate the accuracy of this equipment.

Alloy Steel Products Co., Linden, N. J.

VALVES & FITTINGS

Exhibit will show manufacturer's line of stainless steel valves and fittings for corrosion-resistant service in chemical, petroleum and other industries.

Alrose Chemical Co., Cranston, R. I.

CHEMICALS

Display will show Alro Water Softener A, an aromatic polyaminocarboxylic acid salt, Sorbit P, a flaked alkyl aryl sulfonate wetting agent, amine O, a high molecular weight surface-active amine, Alrosene 31, a modified alcohol sulfate detergent, and Alroterge, an alkyl aryl sulfonate detergent.

Also included will be a number of items which are of interest to the food industry such as, Glyceryl Mono-

stearate, Glyceryl Mono-Oleate and Glyceryl Mono-coconate.

Alsop Engineering Corp., Milldale, Conn.

FILTERS

A new model of sealed disc filters will be shown that is useful for clarifying, final polishing or for removing turbid matter.

American Instrument Company, Silver Springs, Md.

ELECTRIC TYPE HYGROMETER

A new type sensing element used with this instrument, shielded for better adaptation to industrial uses, will show new standards of speed, accuracy and reproducibility in the field of humidity indication and control.

SUPER-PRESSURE AND CATALYTIC HYDROGENATION EQUIPMENT

Display will include reaction vessels, heating jackets and shakers for pressures up to 100,000 lbs. and temperatures ranging up to 1000° F.

Tolhurst Centrifugals Division, American Machine and Metals, Inc., East Moline, Ill.

SUSPENDED CENTRIFUGAL

A feature of this exhibit will be a 26" suspended centrifugal with hydraulic drive. Unit fills need for the pilot plant and laboratory.

Amersil Company, Inc., Hillside, N. J.

ELECTRIC IMMERSION HEATER

Newly perfected heater employing a fused quartz body and a nichrome V heating element will be displayed.

Ampco Metal, Inc., Milwaukee, Wis.

CENTRIFUGAL PUMP

Close coupled and pedestal centrifugal pumps will be displayed. Pumps are made of corrosion-resisting aluminum bronze and are suitable for handling acids, salts, alkalis etc.

Ansul Chemical Company, Marinette, Wis.

SULFUR DIOXIDE & METHYL CHLORIDE USES

Display will be in the form of chemical equations representative of the reactions in which these chemicals are used in the chemical industry.

METHYLATING APPARATUS

To show the use of methyl chloride in the newer processes, a methylating apparatus will be on display.

Atlas Powder Company, Wilmington, Del.

CHEMICALS

A primary feature of the chemicals exhibit will show sorbitol, a hexahydric alcohol used as a basic ingredient for synthesis of other chemicals and also as a humectant or conditioning agent.

Baird Associates, Inc., Cambridge, Mass.

INFRARED GAS ANALYZER

This continuous recording instrument relies on no moving parts or chemicals. Designed for measurement and control of complicated gas streams.

Barco Manufacturing Company, Chicago, Ill.

REVOLVING JOINT

On display will be a new type revolving joint for

CHEMICAL PROCESSING Preview

heating and cooling of all types of rolls and driers. Special gasket material can be used to handle special chemicals.

BALL AND SWIVEL JOINTS

Special gasket materials for use with these joints will be on display. Gaskets have been developed for handling all types of chemicals.

Bemis Bros. Bag Co., St. Louis, Mo.

CLOTH & PAPER BAGS

Cotton, burlap, paper, waterproof paperlined textile bags and multiwall paper shipping sacks will be displayed.

Bird Machine Co., South Walpole, Mass.

MULTI-PANELED FILTER

New unit employs pneumatic "Blow-back" for complete cake removal. Suitable for separation of slow filtering and free filtering solids.

Black, Sivalls & Bryson, Inc., Kansas City, Mo.

SAFETY HEADS & VENT VALVES

In addition to safety heads and vent valves the display will also feature air or gas driven chemical feeders.

S. Blickman, Inc., Weehawken, N. J.

STAINLESS STEEL EQUIPMENT

Display will feature samples of equipment in stainless steel for processing.

Bowen Engineering, Inc., Garwood, N. J.

LABORATORY SPRAY DRYER

Exhibit will include improvements in this dryer which has laboratory applications for determining applicability of spray drying to various materials and for pre-drying formulation. Also used for pharmaceutical work.

Builders-Providence, Inc., Providence, R. I.

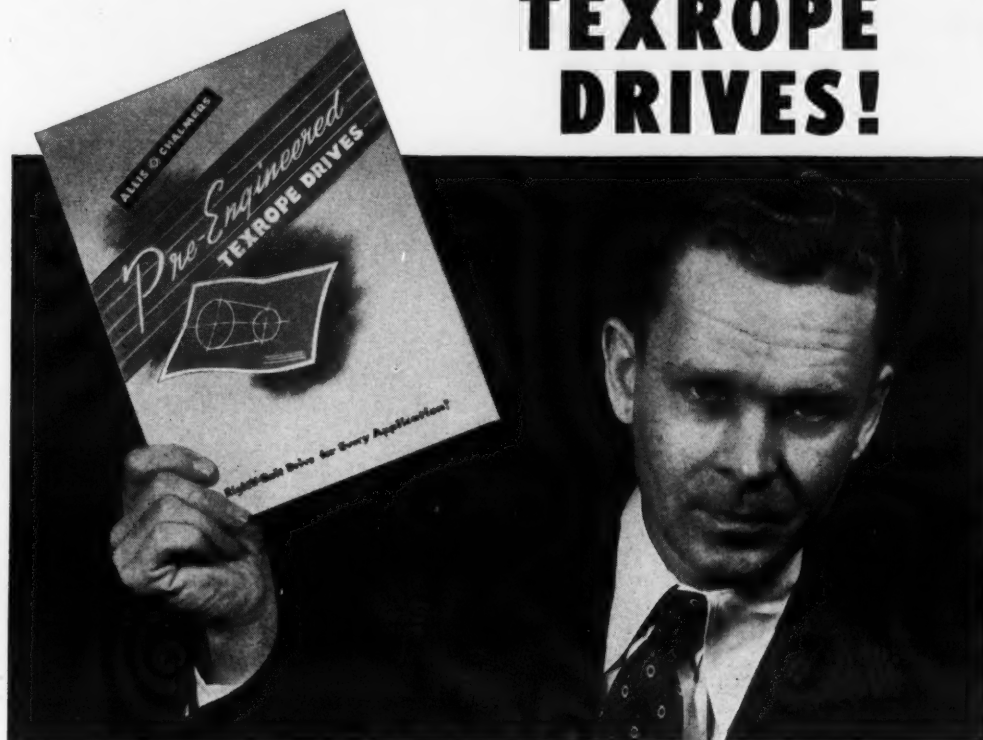
DRY MATERIAL FLOW METER

Full-scale model will show how this device measures weight of dry material passing over belt conveyor. Controls the rate of flow to a manually adjustable, pre-set rate and, also, proportions secondary dry materials as well as liquids. This Conveyoflow meter will control output of belt-type gravimetric feeder in Omega Machine Company booth as well as Adjust-O-Feeder and Treet-O-Unit in Proportioners' booth, both adjoining the Builders-Providence display.

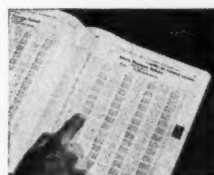
(This section continued on page 85)

NOVEMBER, 1947

NEW MANUAL PRESENTS Pre-Engineered TEXROPE DRIVES!



Selects Most Economical Drive for Any Installation!



NEVER BEFORE has specification of the right V-belt drive been made so simple, so unerring. You turn to a page, run down a column, and there, in one place is the drive you need... number of grooves, diameters of sheaves, size of belt. No turning from table to table, no figuring.

These *Pre-Engineered* stock Texrope drives cover 90% of all requirements. Texrope engi-

neers have carefully selected each one, using economical stock belts and sheaves. Each selection is the *one best drive* for a given requirement of power, speed and dimension.

For the few cases not covered by *Pre-Engineered* stock drives, the manual provides complete, carefully arranged engineering data to make it easy to figure special drives.

Now Available . . . 144 pages, indexed, size 8½ by 11 inches. The most complete V-belt drive manual ever published. A book that only Allis-Chalmers can give you. Copies have been sent to many Texrope dealers and users. If you have not received one, write for Texbook No. 20P40. ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2333

Texrope, Super-7, Textsteel, Texdrive, Magic-Grip and Vari-Pitch are Allis-Chalmers Trademarks

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

TEXROPE
.. Greatest
Name in
V-Belt Drives



"Super 7" V-BELTS
Five Types — Sizes
to suit every power
transmission job.

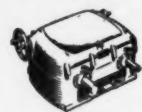


Textsteel, Texdrive,
"Magic-Grip"
— sheaves in a full
range of sizes,
grooves.



"Vari-Pitch"
SHEAVES

Exact variations in
speed, stationery or
motion control.



SPEED
CHANGERS

Speed variations up
to 375% at the turn
of a crank.



ENGINEERING

Finest V-Belt engi-
neering talent in the
world—at your call.

TEXROPE "Super
7" V-Belts result
from the cooperative
research of two great
companies—Allis-
Chalmers and B. F.
Goodrich. They are
sold only by A-C.



When inquiring specify CP 2995 . . . see information request blank, pgs. 2-3

Plastic-lined Steel Pipe Handles Acids; Combines Strength, Corrosion Resistance

Available in maximum lengths of 10 feet and sizes 1-4 inches; also elbows, flanges, etc.

New Materials



Cut-back of steel pipe allows 3/16 inch projection of Saran — standard practice on all Saran lined pipe operations to assure chemical resistant joints

USES — In manufacture of chemicals and in such plants as pulp, paper, textile; metal treating and metal plating where methods necessitate handling highly corrosive chemicals, particularly acids.

FEATURES — Saran-lined steel pipe is resistant to a very wide range of chemicals, oils and solvents. It will satisfactorily carry corrosive sulphuric, hydrochloric, nitric and phosphoric acids.

DESCRIPTION — Pipe in maximum lengths of 10 feet and in sizes from 1 to 4 inches is available. Fittings also Saran-lined, include elbows and tees, companion and reducing flanges and gaskets. The latter are made of especially compounded Saran to assure maximum chemical resistance at joints.

Field assembly presents no problem. Conventional power tools may be used for cutting and threading, and assembly of joints is very similar to that of standard steel piping. In threading, cut-back of steel pipe to allow 3/16 inch projection of Saran is standard practice on all Saran lined pipe to insure good acid and chemical resistance at joints.

The pipe is being fabricated at the company's Midland plant.

THE DOW CHEMICAL CO., Dept. CP, Midland, Mich.

When inquiring specify CP 2996 — see handy form pages 2-3

Acrylic Injection Molding Powder Imparts Higher Heat Resistance



Angle cut on 4 inch pipe shows Saran lining



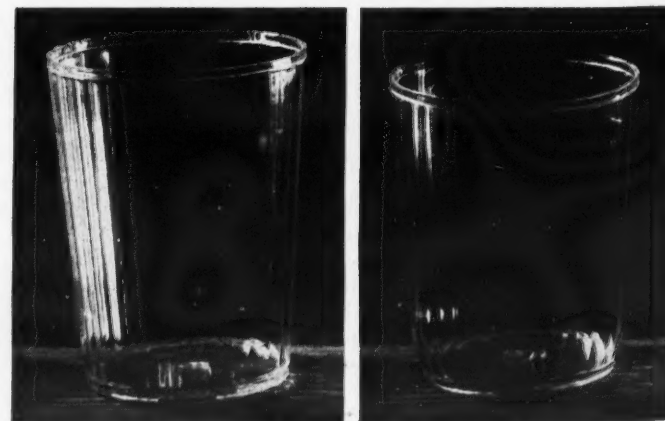
45° flanged elbows — transfer molding is used for lining with Saran; injection method lines union joints



Plexiglas V, now available in commercial quantities, attains improved moldability through low flow temperature

USES — This acrylic injection molding powder is already used in producing various automotive parts such as hood ornaments, instrument dial panels and in a variety of thin and thick shapes such as water tumblers, brush backs and street lighting globes.

FEATURES — The high ASTM heat distortion temperature and extremely low shrinkage of Plexiglas V provide extraordinary stability under high temperature service con-



Plexiglas V tumbler (left) and Plexiglas R Tumbler (right) compared after 2 1/2 hr. heat test at 194° F.

CHEMICAL PROCESSING Preview

ditions. It possesses excellent moldability. Low ASTM flow temperature insures economy and speed in molding, using standard procedures. Articles molded either from Plexiglas V crystal or colors have brilliant transparency with fine optical qualities.

In connection with the properties of Plexiglas V, a point of interest is the small percentage of shrinkage at 100 degrees C. of an injection molding test bar. From a practical standpoint, a high heat distortion temperature is of advantage only when it is combined with a low shrinkage factor. Plexiglas V imparts both of these properties, provides genuine stability at prolonged high service temperatures. (Illustration shows test tumblers molded of Plexiglas V and Plexiglas R, the company's former heat resistant acrylic powder.)

DESCRIPTION — This acrylic injection molding powder imparts the higher heat resistance to molded parts that has been sought by the molding industry. Acrylic molding powders with heat resistant formulations have been supplied, but generally with detriment to other characteristics essential to satisfactory molding. For economy and ease of molding with this powder, the manufacturer recommends cylinder temperatures of 440-480 degrees F. Mold runs in the company's sales service laboratory have indicated a preferential mold temperature of at least 150 degrees F. Mold designs should incorporate the general practices that have been found to give the best results with acrylic powders; sprues, runners and gates should be as large as possible, to insure high production and keep rejects to a minimum.

Plexiglas V has ASTM heat distortion temperature — 92 degrees C. — 198 F. Shrinkage at 100 degrees C. — less than 10 mils/inch. ASTM flow temperature — 158 degrees plus or minus 5 degrees C. (316 degrees plus or minus 9 degrees F.) Available in commercial quantities.

ROHM & HAAS CO., Dept. CP, Washington Square, Philadelphia 5, Pa.

When inquiring specify CP 2997 — see handy form pages 2-3

★

Cover Pipes With Plastic to Protect Delicate Instruments

Process applies Vinyl coating to tubing
1/16 to 1 1/2" diameter

USES — To provide a covering for pipes of steel, brass, copper or any metal as a protection against corrosive fumes. The covering method was developed to provide plastic coatings on pipes leading to delicate instruments.

FEATURES — This Vinylite plastic coated pipe can be furnished in all diameters from 1/16 to 1 1/2 inch. The coating is tough, will not chip or peel, and it bends readily to conform to any position of the pipe.

DESCRIPTION — The color of the coating is ordinarily black, but the covering can be furnished in any color which might be desired for appearance or identification, using different colors for different instrument lines.

In all cases the plastic coated pipe is furnished to the customer's specifications as to type of tubing — steel, copper or brass, — quality, size and color. The method used is to flow the plastics material around the pipe as it is conveyed mechanically through a cross-head attached to the front of a standard plastic extruding machine.

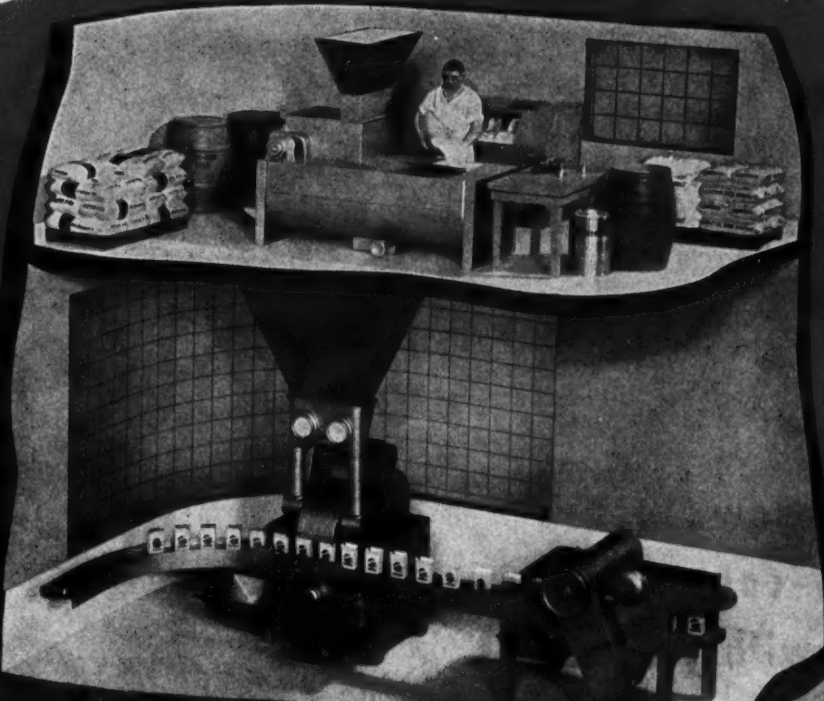
CARTER PRODUCTS CORPORATION, Dept. CP, 10225 Meech Ave., Cleveland 5, Ohio.

When inquiring specify CP 2998 — see handy form pages 2-3

NOVEMBER, 1947


VICTOR

Chemicals



FOR
50 YEARS...
VICTOR
CHEMICALS
for everyday
living

for... **FOODS**

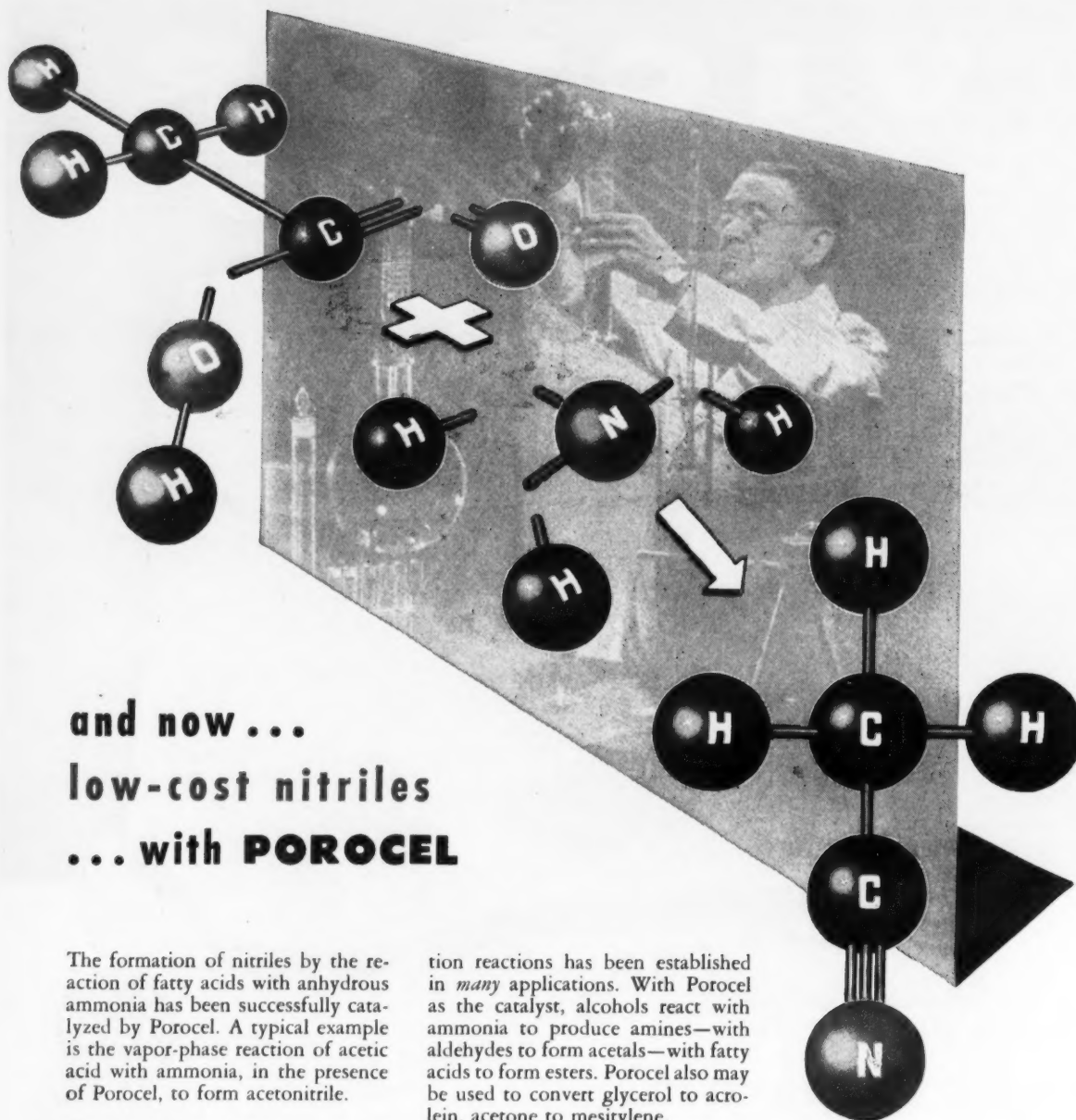




Victor Phosphates play important and varied roles in the manufacture and enrichment of food products. Cereals, flour, prepared mixes, and food beverages, for example, are enriched with essential calcium, phosphorus, and iron by the addition of Victor Calcium and Iron Phosphates. Calcium phosphates also provide the necessary leavening acid in prepared flour mixes. Disodium phosphate serves as an emulsifier in the production of process cheese and condensed milk. ¶ Victor chemicals employed in the food industry include: **Ammonium Phosphates** (yeast, vinegar, yeast food), **Dicalcium Phosphate** (mineral fortification), **Disodium Phosphate** (process cheese, condensed milk), **Hicalcium Phosphate** (calcium-enriched flour and bread), **Iron Phosphates** (mineral enrichment), **Monocalcium Phosphate** (mineral supplement, leavening acid, baking powder), **Phosphoric Acid** (yeast, sugar, soft drinks, imitation jellies, gelatine), **Sodium Acid Pyrophosphate** (acid ingredient in commercial baking powders, prepared doughnut and cake flours), **Tricalcium Phosphate** (conditioning salt, soda, and powdered sugar).

VICTOR CHEMICAL WORKS, 141 W. Jackson Blvd., Chicago 4, Ill.
NEW YORK • KANSAS CITY • ST. LOUIS • NASHVILLE • GREENSBORO, N. C.
Plants: NASHVILLE • MT. PLEASANT, TENN. • CHICAGO HEIGHTS, ILL. • VICTOR, FLA.

When inquiring specify CP 2999 . . . see information request blank, pgs. 2-3



and now ... low-cost nitriles ... with POROCEL

The formation of nitriles by the reaction of fatty acids with anhydrous ammonia has been successfully catalyzed by Porocel. A typical example is the vapor-phase reaction of acetic acid with ammonia, in the presence of Porocel, to form acetonitrile.

Common to all such reactions are Porocel's cost-saving advantages—benefits accruing from continuous processing, and added savings made possible by the low initial cost of Porocel. Still further economies result from the ruggedness of this bauxite catalyst—its ability to stand up under severe conditions of temperature, flow, regeneration and handling.

Porocel's ability to promote dehydra-

tion reactions has been established in many applications. With Porocel as the catalyst, alcohols react with ammonia to produce amines—with aldehydes to form acetals—with fatty acids to form esters. Porocel also may be used to convert glycerol to acrolein, acetone to mesitylene.

Finding a way to make low-cost nitriles is a good example of the work our research staff is doing in its constant study of the catalytic action of Porocel. And the facts it has assembled are at your disposal, without obligation, to help you improve your own process or reduce costs. Outline the facts to: *Attapulugus Clay Company (Exclusive Sales Agent), Dept. E, 210 West Washington Square, Philadelphia 5, Pa.*



ACTIVATED BAUXITES • SUPPORTED CATALYSTS • CATALYST CARRIERS • ADSORBENTS AND DESICCANTS

When inquiring specify CP 3000 . . . see information request blank, pgs. 2-3

Materials

Agent Produces Rich Liquors In Dilution, 1 Part to 10,000 Water

Sodium salt of alkylamido alcohol sulfate in powder and paste forms

USES — Especially interesting as a detergent and dispensing agent in any of the well known uses for synthetic detergents. It has various applications in the cotton, wool and rayon processing industries. It serves to advantage in such phases as:— bleaching assistant, boiling off, color leveling, fulling assistant (with soap), dyeing assistant, etc.

It is also useful in many cleaning and conditioning operations. Some applications are:— automobile wash, bubble bath, dairy cleaners, floor cleaners, degreasing.

FEATURES — Excellent wetting action; produces rich liquors in dilution as high as one part to 10,000 water. Solutions are not affected by acids, alkali, lime or hard water. No insoluble or difficult to rinse precipitates are formed under any conditions generally encountered.

DESCRIPTION — This synthetic surface agent is called Sulframin. It is the sodium salt of an alkylamido alcohol sulfate. It is a freely soluble wetting, dispersing and foaming agent. It is compatible and effective when used in conjunction with soap builders such as sodium pyrophosphate, soda ash, etc.

Sulframin is available in three forms to meet almost all requirements. Sulframin DT Powder is creamish white — 14% active matter; pH 1% solutions at 25° C-8. Not appreciably hygroscopic, free flowing. Sulframin DH Paste, creamish white, — 22% active matter; pH of 1% solution at 25° C. — 9. Sulframin DHL Paste, — amber liquid — 27% active matter. pH of 1% solution at 25° C. — 8.

Generally Sulframin should not be used in conjunction with soap. The nature of the two products is such that in most cases a blend of soap and Sulframin results in a performance far inferior to that of the components.

ULTRA CHEMICAL WORKS, INC., Dept. CP, Paterson, N. J.

When inquiring specify CP 3001 — see handy form pages 2-3

★

Revised "National Paint Dictionary" Is 6 x 9", 704 Pages

Revised edition of "National Paint Dictionary" is a 704-page volume, size 6x9". Authored and published by Jeffrey R. Stewart with technical assistance of E. F. Hickson, chief, paint, varnish and lacquer section, National Bureau of Standards, and Dr. R. B. Seymour, director, industrial research institute, University of Chattanooga. Type faces are highly legible.

Terms are divided in 6 categories, largest proportion being included in first two groups: 1) industrial raw materials used in production of paints and allied products; 2) trade names of raw materials and allied products; 3) terms describing processes, methods, systems; 4) terms denoting scientific instruments primarily for evaluation use; 5) terms denoting colors, optical effects, textures; 6) miscellaneous terms.

Price, \$7.50. Remit direct to publisher, name below.

STEWART RESEARCH LABORATORY, Dept. CP, P. O. Box No. 173, Benjamin Franklin Station, Washington, D. C.

When inquiring specify CP 3002 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

Materials

Bloom Inhibitor Used In Rubber Compounds

Said to impart longer workability; added to batch without melting

USES — Practical applications are described by maker as including tire coat and friction stocks, tire repair materials, laminated mechanical parts, footwear frictions.

FEATURES — Ability to inhibit stearic acid and sulphur blooms, coupled with inherent tack, are said to provide a combination of properties especially applicable in compounds of 100% natural rubber and mixtures of natural rubber with GR-S.

DESCRIPTION — Natac is the name of this bloom inhibitor, which is a modified resin acid which is neutral with thiazole acceleration in natural rubber. It is a solid having a softening point (Ball and Ring) of 145-155 degrees F. It shatters readily at room temperature, and may be added directly to the batch without previous melting.

Compounds containing Natac are claimed to retain a tacky surface for long periods of time as a result of the retardation of fatty acid and sulfur blooms. This means longer workability and reduces the blooming tendencies caused by such factors as cold weather, lay-over, rapid chilling, etc.

J. M. HUBER CORP., Dept. CP, 342 Madison Ave., New York 17, N. Y.

When inquiring specify CP 3003
— see handy form pages 2-3

★

Lists More Than 40 Organic Chemicals, Rare Aldehydes

More than 40 organic chemicals, including iso- and tere-phthalic acids and rare aldehydes such as capryl aldehyde, are listed in a 6-page pamphlet.

Information presented includes chemical formula, molecular weight, degrees centigrade, etc. Available in research and pilot plant quantities. "Organic Chemicals" pamphlet.

GENESEE RESEARCH CORPORATION, Dept. CP, 577 Lyell Ave., Rochester, N. Y.

When inquiring specify CP 3004
— see handy form pages 2-3

For more information on product at right, specify CP 3005
... see information request blank between pages 2-3.

DOUBLE CHECKED ✓ FROM RESEARCH TO INDUSTRY

SHARPLES ISOPROPYLAMINE



- ▶ Can be supplied in anhydrous form without use of pressure containers.
- ▶ Undergoes all reactions typical of primary aliphatic amines.
- ▶ Suggested applications: as intermediate for

PHARMACEUTICALS

RUBBER CHEMICALS

DYESTUFFS

INSECTICIDES

TEXTILE ASSISTANTS

PROPERTIES

Color
Specific Gravity at 20°/20°C.
Titre as Isopropylamine
Acid insolubles
Distillation: 95% distills between
Molecular weight (calc'd)
Flash Point (open cup)
Viscosity at 25°C.
Refractive Index at 20°C.
pH Value (0.5 N Solution)
pH Value (0.05 N Solution)
*Freezing Point
Soluble in water and most organic solvents

Water White
0.68-0.69
Min. 98.0%
Max. 0.2%
30.5-34.5°C.
59.1
< 20°F.
0.36 Centipoise
1.376
12.2
11.6
-101.2°C.

*Literature Value

Samples will be furnished on request

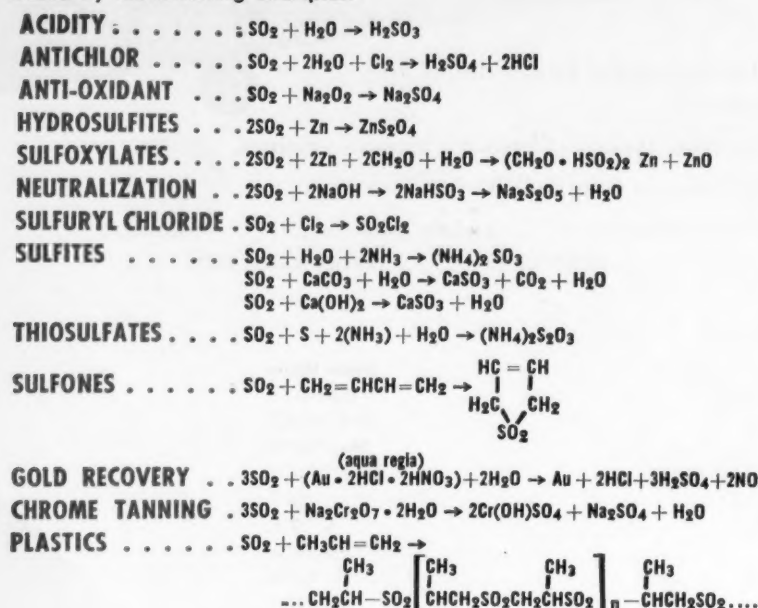
Visit Sharples Booth No. 25
at the Exposition of Chemical
Industries, Grand Central
Palace, N. Y., Dec. 1st to 6th

SHARPLES CHEMICALS INC. PHILADELPHIA • CHICAGO • NEW YORK

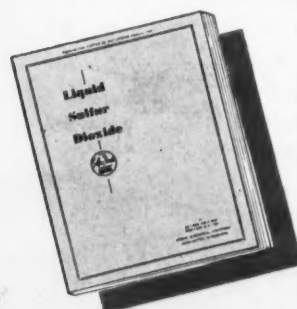


ANSUL SO_2 IN INDUSTRY 2

The versatility of Ansul Liquid Sulfur Dioxide in industrial practices is illustrated by the following examples:



In addition Ansul Liquid Sulfur Dioxide is being currently used as a bleaching agent • purifier • preservative • solvent • fumigant • protective atmosphere in magnesium fabrication • refrigerant and in polymerization, etc.



Consult Ansul Technical Staff relative to the development of these and other applications for SO_2 in your processes. Write for treatise on Liquid Sulfur Dioxide and request bulletins describing the specific application in which you are interested.



PHYSICAL PROPERTIES

Chemical formula	.....\text{SO_2
Molecular weight	.....64.06
Color (gas and liquid)	.....Colorless
Odor	.....Characteristic, pungent
Melting point	.....-103.9°F. (-75.5°C.)
Boiling point	.....14.0°F. (-10.0°C.)
Density of liquid at 80°F.}	.....(85.03 lbs. per cu. ft.)
Specific gravity at 80°F.}	.....1.363
Density of gas at 0°C. and 760 mm.	.....2.9267 grams per liter (0.1827 lb. per cu. ft.)
Critical temperature	.....314.82°F. (157.12°C.)
Critical pressure	.....1141.5 lbs. per sq. in. abs.
Solubility	.....Soluble in water
Purity	.....99.9+% (by wt.) SO_2 (H_2O less than 0.01%)

*REG. U.S. PAT. OFF.

For your METHYL CHLORIDE applications Use ANSUL METHYL CHLORIDE

ANSUL CHEMICAL COMPANY
 INDUSTRIAL CHEMICALS DIVISION, MARINETTE, WIS.
 60 E. 42nd St., New York — 535 Chestnut St., Philadelphia

When inquiring specify CP 3006—see handy form pages 2-3

Materials

Gang Brazing Compound Does Not Develop Heat Oxides

Used with torch, furnace, induction methods

USES — For use in gang brazing operations where several parts are to be brazed at the same time. It can be used with common heating methods — torch, furnace or induction.

FEATURES — Containing the powdered metal in combination with the powdered flux, it can be mixed with water to form a smooth paste.

DESCRIPTION — The water-mixed paste may be brushed on the work at any time prior to the actual brazing. It covers and spreads well and will remain in place during the usual manufacturing operations.

Under the heat of brazing, the product melts readily to a liquid of low surface tension and low viscosity which flows over the surface to be brazed and penetrates into joints and into contacting surfaces. At the temperature of brazing, it is extremely active in cleaning all surfaces to prepare them for the union with the brazing metal. The finely divided condition of the alloy causes it to melt readily under the heat. Covered at all times by the molten flux, it does not develop heat oxides.

AMERICAN SOLDER & FLUX CO.,
 Dept. CP, Philadelphia 25, Pa.

When inquiring specify CP 3007
 — see handy form pages 2-3

★

Spirituos Liquor Processes, Hazards, Subject of Report

"Processes, Hazards and Protection Involved in the Manufacture of Spirituous Liquors" is a 60-page pamphlet. Whiskey, alcohol, rum, gin, apple brandy, etc., are discussed.

Text presents recommended good practice requirements for constructing, operating and protecting distilleries, rectifying and blending plants, floored rack warehouses for storing barreled goods. Appendices discuss open rack warehouses, horizontal draft stops, and forced entry into bonded warehouses. Research Report No. 5.

NATIONAL BOARD OF FIRE UNDERWRITERS, Dept. CP, 85 John St., New York 7, N. Y.

When inquiring specify CP 3008
 — see handy form pages 2-3

Waxes QUALITY BRAND

MICROCRYSTALLINE WAXES OZOKERITES CERESINES

WHITE, YELLOW, BLACK
 Full Range of Melting Points

CARNAUBA CANDELILLA OURICURY

Crude and Refined

SEND FOR BULLETIN D.P.

DISTRIBUTING & TRADING CO.
 444 MADISON AVENUE, NEW YORK 22

When inquiring specify CP 3009—see handy form pages 2-3



HIGHLY ADHESIVE

DIAMOND CHLOROWAX

RESINOUS CHLORINATED PARAFFIN

... gives a highly adhesive quality to interior and exterior paints—varnishes and lacquers—textile coatings—paper coatings—printing inks—glues and adhesives. Compatible with resins, rubbers, vegetable oils and natural waxes. Have you tried it in your formula?



CHEMICALLY INERT
 NON-TOXIC
 FLAME RESISTANT
 WATER REPELLENT
 CONTENTS OF DRUM 250 LBS.

SEND FOR BOOKLET TODAY!

DIAMOND ALKALI CO., Pittsburgh 22, Pa. and Everywhere

When inquiring specify CP 3010—see handy form pages 2-3

CHEMICAL PROCESSING Preview

Hiding Pigments Removed Without Loss of Hiding Power

Ultrafine particle size precipitated calcium carbonate saves pigments

USES — Improves hiding power and other properties; also improves initial gloss, aids retention of gloss and color, checks wet flow, and increases hardness of film. Improvement of these properties may be obtained, and at the same time, a saving in opaque pigment may be effected. This ultrafine particle size precipitated calcium carbonate (Witcarb R) increases the hiding power over that of the original enamel, even up to 10% of the titanium dioxide replaced by an equal weight of Witcarb R.

Paints formulated with lithopone, titanium-calcium, and similar pigments also show improvement in appearance, durability and brushing characteristics when Witcarb R permits removal of 3 — 5% of these hiding pigments with no less and possibly some improvement in hiding power.

FEATURES — Appreciable amounts of white hiding pigments may be saved with no loss of hiding power.

DESCRIPTION — Witcarb R is an ultrafine particle size precipitated calcium carbonate. Although the mechanism is not entirely understood, it appears that the effect of the Witcarb R is due, at least in part, to improving the dispersion and deflocculation of the opaque pigments. Approximately 8-10% Witcarb R on total pigment content is recommended in order to improve physical properties such as gloss, gloss retention, and consistency.

WITCO CHEMICAL CO., Dept. CP, 295 Madison Ave., New York 47, N. Y.

When inquiring specify CP 3011 — see handy form pages 2-3

★

Laminating, Casting of Paraplex Resins

"Paraplex for Laminating and Casting Applications" is a 24-page booklet discussing properties and important industrial applications of "Paraplex P" series resins. Techniques for casting and laminating these synthetic polymers of the thermosetting polyester type — notably Paraplex P-10, P-13, P-33 and P-43 — are described.

Literature includes tabular summary of the physical properties of these resins in cured and uncured forms, with properties of castings of resin blends.

THE RESINOUS PRODUCTS & CHEMICAL COMPANY, Dept. CP, Washington Square, Philadelphia 5, Penna.

When inquiring specify CP 3012 — see handy form pages 2-3

★

Bulletin Aids Selection of Corrosion-Resistant Materials, Equipment

Aid to chemical engineers in selecting corrosion-resistant materials and equipment suitable for specific services is offered by an illustrated 16-page bulletin.

Literature presents a wide range of products which include tubing for laboratory, beverage, vacuum or pressure uses; gasketing; various lining materials; protective coatings; tanks, sinks, pipe and fittings; filters, valves, acid pumps, special ceramic bodies; ball and jar mills, drum rollers and other mixing equipment; towers and tower packings; corrosion-resistant masonry. Bulletin K.

U. S. STONEWARE COMPANY, Dept. CP, Akron 9, O.

When inquiring specify CP 3013 — see handy form pages 2-3

NOVEMBER, 1947

HEYDEN chemicals serve the nation's industries

MONOCHLORBENZENE (MONOCHLORBENZOL)



MONOCHLORBENZENE Heyden is widely used as an organic solvent and as an intermediate in the manufacture of insecticides, dyes, medicinals, and explosives.

Your specification of **MONOCHLORBENZENE Heyden** will assure a product of high quality and dependability.

PROPERTIES

Appearance Clear, colorless liquid.
Boiling Range (typical)

Drop 131.5° C.

50% 132.0° C.

Dry 132.5° C.

Freezing Point — 45° C.

Specific Gravity at 25/25° C. 1.105

Flash Point

Closed Cup 29° C.

Open Cup 90° F.

Solubility: Practically insoluble in water; freely miscible with most organic liquids.

Copper corrosion negative

CONTAINERS: Tank cars, approx. 74,000 lb.; drums, approx. 475 lb.; shipped from our plant in Memphis, Tenn.



HEYDEN CHEMICAL CORPORATION
393 SEVENTH AVENUE, NEW YORK 1, N. Y.

CHICAGO OFFICE, 20 North Wacker Drive

PHILADELPHIA OFFICE, 1700 Walnut Street

Benzaldehyde • Benzoates • Benzoic Acid • Benzyl Chloride
Bromides • Chlorinated Aromatics • Medicinal Cresolates
Formates • Formaldehyde • Formic Acid • Glycerophosphates
Medicinal Guaiacols • Hexamethylenetetramine
M.D.A. • Paraformaldehyde • Parahydroxybenzoates
Penicillin • Pentaerythritols • Salicylates

When inquiring specify CP 3014 . . . see information request blank, pgs. 2-3



UNIQUE IN

Unexcelled clarity that will not cloud
 Flavor-emphasizing blandness free from
 cereal taste and starchy sensation
 Excellent keeping qualities that insure
 unusually long shelf life
 Resistance to breakdown on prolonged cooking
 Ability of pastes to recover original
 body and fine texture after freezing
 Pastes Properties { Non-cohesive • Non-jelling
 { Non-skinning • Heavy-bodied
 Commercially available in large quantities

DESCRIPTION: CLEARJEL is a modification of Amioca which is obtained from domestic bred waxy maize. CLEARJEL differs from Amioca, tapioca, potato and other tuber-like starches. It does not yield a rubbery cohesive paste but instead gives pastes with clear non-cohesive creamy textured, heavy bodied properties. It should be compared with natural gums such as tragacanth, karaya and other stabilizers.

Like Amioca, CLEARJEL is unique among starches because it consists entirely of amylopectin. It is believed to be a branched or non-linear polymer of glucose. Its molecules, being highly hydrated and unable to associate, give rise to heavy bodied, clear pastes free from any tendency to thicken or jell on ageing. Unlike Amioca, CLEARJEL pastes are non-cohesive.

PHYSICAL APPEARANCE: A white powder resembling ordinary corn starch.

CHARACTERISTICS: In 15 parts of water it will cook to a smooth, heavy bodied paste which is non-cohesive and characterized by excellent clarity, bland flavor and resistance to breakdown on prolonged heating even under acidic conditions.

POSSIBLE APPLICATIONS: CLEARJEL is especially recommended as a stabilizer for fruit pies and tarts. Its clarity permits fruit colors to retain their original brilliance and adds the extra eye appeal of tempting, full bodied fruit. Its bland flavor actually adds tang to natural fruit flavors. All of these properties remain undiminished after many days of shelf life. CLEARJEL is also excellent for unbaked, frozen fruit pie fillings. Its pastes recover their original body after freezing. CLEARJEL can be used in a frozen chop suey base for chow mein and in fresh chop suey. It gives the sauce a fine texture and a soft jelling tendency. CLEARJEL offers the confectioner a stabilizer for caramels and marshmallows that not only enhances their eating qualities but also increases yield because of its higher moisture balance and added bulk. CLEARJEL will not cloud or set in cream sauces, clear gravies, a la king foods, etc. And it can be used as a pure food dusting starch.

WE'RE READY to match our research and laboratory efforts with yours in further exploration of CLEARJEL applications to your products. Address: National Starch Products, Research and Development Laboratories, 270 Madison Avenue, New York City. Plants: Dunellen, N. J., Chicago, Indianapolis and San Francisco. In Canada: Meredith, Simmons & Co., Ltd., Toronto and Montreal. In Holland: Nationale Zetmeelindustrie, N. V. Veendam.



STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

When inquiring specify CP 3015 — see handy form pages 2-3

Materials

Accelerators Useful In Latex, Sundries

*Available in commercial quantities
for use with GR-I butyl stocks,
wire insulation, etc.*

USES — These three accelerators cover a range of applications including mechanical rubber goods, air curing cements, wire insulation, latex compounding.

DESCRIPTION — All three of these products are now commercially available. The first is identified by the maker as Number 66 (Selenium Diethyldithiocarbamate). Its molecular weight is 672. Specific gravity at 20°/20° C., 1.39. Melting point approximately 62° C. Appearance, yellow powder. It is particularly useful as a vulcanizing agent for continuous cure wire insulation. It is also used in heat resistant mechanical goods and GR-I (butyl rubber) stocks.

The second Number 57 (Zinc Dimethyldithiocarbamate). Molecular weight approximately 305.8. Specific gravity at 20°/20° C., 1.65. Melting point, approximately 248° C. Appearance, white powder. May be used as either a primary or secondary accelerator. For air curing cements, proofed goods, footwear, wire insulation, drug sundries industrial products and latex compounds.

The third Number 77 (Zinc Dibutylthiocarbamate) has a Molecular weight of 471.1. Specific gravity at 20°/20° C., 1.24. Melting point, approximately 105° C. Appearance, white powder. Particularly useful in latex compounding.

SHARPLES CHEMICALS, INC., Dept. CP, 123 South Broad St., Philadelphia 9, Pa.

When inquiring specify CP 3016
— see handy form pages 2-3



96-Page Catalog Lists Laboratory Chemicals

A 96-page chemicals catalog lists CP, USP and technical reagents, indicators, stains and dyes, culture media and solutions for laboratory use. Many nationally-known brands are included, also 15 pages of special chemicals and chemical accessories.

CENTRAL SCIENTIFIC COMPANY, Dept. CP, Dept. Q, 1700 Irving Park Road, Chicago 13, Ill.

When inquiring specify CP 3017
— see handy form pages 2-3

B. F. Goodrich Chemical Company

has for sale these GOOD-RITE chemicals



In Commercial Quantities

Phenyl B Naphthyl Amine • Distilled • Commercial

Mixed Mono-and Diheptyl Diphenyl Amines

Isopropoxy Diphenyl Amine

p Hydroxy Diphenyl Amine

N-Nitroso Diphenyl Amine

Diphenyl p Phenylene Diamine

Di B Naphthyl p Phenylene Diamine

Monobenzyl Ether of Hydroquinone

Di Isopropyl Dixanthogen

Mixed Ethyl and Dimethyl Mercaptothiazoles

Mixed Aliphatic Thiazyl Disulfides

Polymerized Trimethyl Dihydro Quinoline



In Pilot Plant Quantities

Dibenzyl Ether of Hydroquinone



For additional information please write

B. F. Goodrich Chemical Company A DIVISION OF
Department CG-11, Rose Building, Cleveland 15, Ohio

When inquiring specify CP 3018 — see handy form pages 2-3

ANHYDROUS SODIUM ACETATE

PURE, CLEAN, UNIFORM, DEPENDABLE

The production of NIACET SODIUM ACETATE is carefully controlled to insure a high quality product suitable for particular jobs such as tanning, electroplating, photography, etc., where purity is essential.

3 lbs. Anhydrous = 5 lbs. 60% Grade

Anhydrous grade is recommended as the best value and the most efficient to use, store and ship.

Also

**NF VIII SODIUM ACETATE
TECHNICAL SODIUM DIACETATE and
ANHYDROUS SODIUM DIACETATE**



When inquiring specify CP 3019 — see handy form pages 2-3

Mild Steel Electrode Possesses Low Hydrogen Content

Used on AC and DC reverse polarity current;
no preheating required



Weld (right) made with No. 312

USES—This all-position mild steel electrode is designed to produce weld metal possessing not only excellent mechanical properties but also low hydrogen content. It may be used for welding high sulfur, free machining steel; welding hardenable steel

where no pre-heat is used; welding cold rolled steels which normally exhibit excessive porosity when welded with conventional electrodes; weldments to be vitreous after welding. The extreme low oxygen content of this new electrode makes possible the production of satisfactorily enameled surfaces without any heat treatment prior to enamel.

FEATURES—The improved electrode has two advantages over its predecessor. (1) It can now be used on AC and DC reverse polarity current. Operating characteristics are said to be equally good on either AC or DC reverse. The former 312 electrode could be used only on DC reverse. (2) Preheating the electrode is no longer required. It is easy to obtain porosity-free weld deposits. These deposits can be obtained by using either the stringer bead or the full weave technique.

DESCRIPTION—An indication of the difference between a weld made with conventional mild steel electrodes and the 312 may be observed in the accompanying illustration. The weld at the left was made with conventional mild steel electrodes. The weld at the right was made with the 312. Base plate is cold rolled steel; central part is high sulfur (0.30% S) free machining steel.

AIR REDUCTION SALES CO., Dept. CP, 60 East 42nd St., New York, N. Y.

When inquiring specify CP 3020—see handy form pages 2-3

★

"Phenoplasts: Their Structure, Properties and Chemical Technology" Is 268 Pages

Volume VII of "High Polymers" explains the physical and chemical structure of phenoplasts and, on the basis of present knowledge, correlates their structure with their mechanical and chemical properties. One of a series of monographs on the chemistry, physics and technology of high polymeric substances, it is 268 pages, with 85 illustrations. Size, 6 x 9". Published 1947.

Title: "Phenoplasts: Their Structure, Properties and Chemical Technology." Author, T. S. Carswell, Commercial Solvents Corp. Some typical chapter headings include Fillers for Phenoplast Molding Powders, Mechanical Properties of Laminated Phenoplasts, Oil Soluble Phenoplasts, Molding Technique for Phenoplasts. Price, \$5.50. Remit direct to publisher, name below, or inquire on inquiry slip.

INTERSCIENCE PUBLISHERS, INC., Dept. CP, 215 Fourth Ave., New York 3, N. Y.

When inquiring specify CP 3021—see handy form pages 2-3

NOVEMBER, 1947

Hooker Cyclohexanol and Methyl Cyclohexanol

Solvents
Plasticizers
Homogenizing Agents



Lacquers
Coatings
Resins



Hooker high pressure autoclaves in which hydrogenations are carried out receive periodic inspection and careful maintenance.

HERE ARE TWO SPECIAL PRODUCTS worthy of investigation in your compounding and application of resins and plastics.

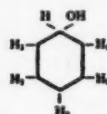
Cyclohexanol and Methyl Cyclohexanol have excellent solvent and plasticizing properties for many natural and synthetic resins. Cyclohexanol is particularly well adapted as a solvent for various oils, gums and waxes used in lacquer manufacture. It blends well with more volatile solvents and has excellent homogenizing ability. It is also compatible with a variety of resins which may be used in coating composition.

Methyl Cyclohexanol is an excellent solvent for waxes and resins, particularly the cellulose esters and ethers. Its low volatility and good emulsifying properties indicate a wide usefulness in the coating composition field.

Principal physical characteristics are listed below. Additional information is contained in Hooker Technical data sheets. When writing for more information please use your business letterhead.

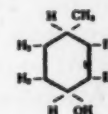
PHYSICAL DATA

Cyclohexanol
 $C_6H_{11}OH$



Mol. Wt.	100.1
Sp. Gr., 25°/15.5°C	0.945
R. I., n ₂₀ /D	1.4654
Flash Point	68°C
F. R. High Grade	18° to 22°C
Tech Grade	0° to 5°C
B. R. High Grade (100%)	159° to 163°C
Tech Grade (95%)	155° to 165°C

Methyl Cyclohexanol
 $CH_3CH_{10}OH$



Mol. Wt.	114.1
Sp. Gr., 15.5°/15.5°	0.924
R. I., n ₂₀ /D	1.461
Flash and Fire Points	71°C
F. R.	about 20°C
B. R. (100%)	155° to 180°C

HOOKEE ELECTROCHEMICAL COMPANY

15 Forty-Seventh St., Niagara Falls, N. Y.
New York, N. Y. Wilmington, Calif. Tacoma, Wash.

Caustic Soda

Paradichlorobenzene

Muriatic Acid

Chlorine

Sodium Sulfide

Sodium Sulfhydrate

When inquiring specify CP 3022 . . . see information request blank, pgs. 2-3

HOOKEE CHEMICALS

HAVE YOU INVESTIGATED VINSOL

**a low-cost thermoplastic
resin with many uses**

If you're looking for both economy and versatility in a resin — it's Hercules Vinsol®!

Low in cost and immediately available, this resin contributes many unique properties to a wide variety of compositions. Vinsol's properties include insolubility in petroleum hydrocarbons, and incompatibility with most petroleum oils and waxes. It is soluble in alcohol, esters, cyclic hydrocarbons, and chlorinated solvents.

Vinsol is compatible with cellulose acetate, nitrocellulose, and ethyl cellulose. It may be dispersed in natural rubber and most synthetic rubbers. Compatibility with zein makes it ideal as a component of shellac substitutes. Combined with lignin, it imparts improved flow. Vinsol can be made soluble with many vegetable oils by cooking Vinsol-vegetable oil to varnish-making temperatures.

Vinsol may be saponified with sodium or potassium hydroxide to form water-soluble soaps. It may be esterified with alcohols, or condensed with formaldehyde.

This economical thermoplastic resin is available in lump, flake, and pulverized form. It is also available in emulsion form of 40 per cent solids content. For more complete technical details, or for assistance in applying Vinsol, return coupon below.



HERCULES

HERCULES POWDER COMPANY
940 Markel Street, Wilmington 99, Del.

I am interested in Vinsol Resin for: _____

Name _____

Company _____

Street _____

City _____

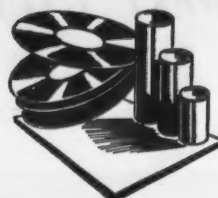
Zone _____

State _____

007-1

When inquiring specify CP 3023 . . . see information request blank, pgs. 2-3

These and Other Industries
use Vinsol Resin



PLASTICS...

Modifier for ethyl cellulose, shellac, vinyl resins for phonograph records. Modifier and extender for phenol-aldehyde resins in molding powders, and as binders for rock wool insulation batts and laminated plastics.



PAPER...

Stiffener and modifier for heavy paper and paperboard . . . binder for lignin-like building boards made from fiber or cellulose products.



CONSTRUCTION...

Vinsol and Vinsol NVX are used as emulsifiers and stabilizers for asphalt emulsions . . . air-entraining agents for Portland cement, masonry cement.



PROTECTIVE COATINGS...

Gives spirit varnishes, from cherry to mahogany, color without the use of dyes . . . low-cost ingredient for dark-colored nitrocellulose lacquers.



ADHESIVES...

Economical ingredient for linoleum and floor tile cements . . . in grease-proof tile.

© TRADE-MARK REG. U. S. PAT. OFF.

Materials

Nylon Filter Cloth Is Inert to Acids, Alkalies, Alcohols

Also supplied as filter element covers sewn with
Nylon thread

USES — For applications involving most organic alkalies and acids; halogenated hydrocarbons, aldehydes, ketones, alcohols, carbon bisulphide, carbon tetrachloride, trichlorethylene, benzene.

FEATURES — Nylon filter media have exceptionally high abrasion resistance (melting point approximately 482 degrees F.), are unaffected by fungi and microorganisms. Smooth surface greatly facilitates cake discharge.

DESCRIPTION — Nylon filter cloth is produced in twill, chain and plain weaves in numerous porosities and in widths from 26 to 72 inches. The cloth can also be supplied in the form of made-up filter element covers with all sewing done with Nylon thread.

FILTER MEDIA CORP., Dept. CP, Hamden 14, Conn.

When inquiring specify CP 3024 — see handy form pages 2-3

★

Adsorbent Prevents Rust, Mildew in Stored Metal, Packaged Food

Adsorbs 4.9 lbs. water per cu. ft. at 10% relative
humidity, 80° F., or 16.2 lbs. at 80% r.h.

USES — To prevent rusting and corrosion of machinery, tools, instruments, electrical motors, metal articles in storage or shipment. For use with many types of moisture barriers as applied to delicate precision instruments or large, bulky equipment.

Promises potential uses for air conditioning, defrosting and deodorizing.

For preventing mildew and moisture in canned or packaged foods and pharmaceuticals, including candy, cereals and crisp bakery products.

Identified as Desiccites No. 25, 25F and 30, these desiccants have certain specific, as well as general, applications. Thus, Desiccite 25F (fine mesh) is packaged in tea bags or small envelopes for use where a minimum amount of desiccant is required. No. 30, on the other hand, was developed to supplement No. 25 for dehydrated fruits and vegetables.

FEATURES — Economical, with high water vapor adsorption capacity. Prevents losses due to spoilage or corrosion. Coincides with improvements in moisture barriers developed during the war for the purpose of economical but effective civilian protective packaging.

By shipping a large number of units at one time, with large, flat envelopes of Desiccite 25 at top and bottom of pack, it is possible to extend this protection to highly competitive items where margin of profit is too small to permit individual desiccant protection. For this purpose, a case liner fabricated from inexpensive barrier material, or an asphalt-laminated corrugated carton, is used.

Preserves freshness, shelf-life and saleability of many foods, pharmaceuticals and other products.

Desiccite No. 25: contains a minimum of fines or dust particles; adsorbs more moisture, proportionately, at lower relative humidities than ordinary physical adsorb-

CHEMICAL PROCESSING Preview

Materials

ents, most of which adsorb increasing quantities of moisture as they are exposed to increasing relative humidity. Permits packing 50% greater quantity per unit volume, according to manufacturer, thus giving increased drying capacity.

Desiccite No. 30: extremely high rate of water vapor adsorption, combined with high total adsorption capacity. Although it adsorbs water by chemical means, it does not lose shape or liquefy in use.

DESCRIPTION — Desiccite Dehydrating Agent No. 25: a solid, physical moisture adsorbent prepared in extruded, cylindrical pellets of 3/16" diameter, about 3/16" long. Screened in manufacture, all are larger than 12 mesh. A processed material of high purity, Montmorillonite base. Odorless, tasteless, non-toxic, non-corrosive, neutral.

Desiccite 25 adsorbs moisture by physical means only, hence, will not liquefy or soften despite extreme moisture conditions. Of high apparent density. May be regenerated, if desired, by removing from bags and heating at 350° F. for 2 or 3 hours. Adsorbs a minimum of 4.9 lbs. of water per cu. ft. at 10% relative humidity, 80° F., with 7.9% weight gain, or 16.2 lbs. per cu. ft. at 80% relative humidity, 80° F., with 26.2% weight gain.

Desiccite 25F (fine mesh): identical in physical and chemical properties to No. 25 except in size of particles. Desiccite No. 30: a pure white pellet with great affinity for water vapor. Adsorbs by chemical means without liquifying or losing shape. Where ordinary quicklime increases in volume about 250% when it adsorbs moisture, Desiccite 30 expands only 60%. Can be regenerated only by long, involved procedure.

No. 25 is available in 6 and 12 oz. or 1-1/2 and 7-1/2 lb. paper-lined, bleached jean cloth bags. These are packed in 22-1/2-gal. steel drums. Also bulk-packed in 22-1/2-gal. drums. No. 25F is packed in 5, 10 and 15-gram tea bags, about 3" square, of heavy-weight tea-bag paper. They may be folded to fit, or imprinted with a sales message. Also bulk-packed in 22-1/2-gal. steel drums.

No. 30 is available only in bulk at present, but may be packaged in ordinary kraft paper bags for "in-can" dehydration. The kraft bags usually are placed inside a cotton bag such as sugar, flour or mailing sack, for greater strength.

FILTROL CORPORATION, Dept. CP, 634 S. Spring St., Los Angeles 14, Calif.

When inquiring specify CP 3025—see handy form pages 2-3

Offers Organic Nitrogen Chemicals for Research and New Products

Several organic nitrogen chemicals are compiled and described in a condensed, 18-page technical pamphlet. Literature includes a two-page composite product chart. Nitrogen derivatives covered are offered for chemical synthesis research and new product development.

Products discussed include dicyandiamide, acrylonitrile, ethylene cyanohydrin, phenyl biguanide hydrochloride, guanidine carbonate, glycolonitrile, phenyl guanidine stearate, beta-isopropoxypropionitrile, guanylurea sulphate and dithiobiuret. "Nitrogen Chemicals Digest."

AMERICAN CYANAMID COMPANY, Synthetic Organic Chemicals Dept., Dept. CP, 30 Rockefeller Plaza, New York 20, N. Y.

When inquiring specify CP 3026—see handy form pages 2-3

NOVEMBER, 1947

FOLLOW-THROUGH!

That's the keynote of Wyandotte Technical Service. Every step of the way—from the first sample of the chemical adapted to meet your needs to the sale of your finished product—this complete service is at work for you.

Today, as in the past, experienced Wyandotte Technical Service Men are advising many Wyandotte customers in such problems as the design of chemical storage facilities and processing equipment . . . in the proper methods of handling, sampling, analyzing and using bulk chemicals.

All of this adds up to greater value for you in Wyandotte Chemicals. If you have any problems concerning the chemicals listed below, *why not ask Wyandotte?*



WYANDOTTE CHEMICALS CORPORATION
WYANDOTTE, MICHIGAN • OFFICES IN PRINCIPAL CITIES

Soda Ash • Caustic Soda • Bicarbonate of Soda • Calcium Carbonate • Calcium Chloride • Chlorine • Hydrogen • Dry Ice • Glycols
Ethylene Dichloride • Propylene Dichloride • Chloroethers • Aromatic Sulfonic Acid Derivatives • Other Organic and Inorganic Chemicals



When inquiring specify CP 3027 . . . see information request blank, pgs. 2-3

For oxygen free atmospheres use Airco Nitrogen

The use of Airco Nitrogen for deaerating, processing, storing and packaging fats and oils and in the packaging of dehydrated foods gives positive protection against oxidation. It provides an inert atmosphere, free of impurities, that protects practically any material susceptible to oxidation and corrosion by air.

To meet your requirements, Airco can supply nitrogen of specific types. The uniformity and adherence to specifications of Airco Nitrogen are definite factors contributing to its satisfactory use.

Airco Nitrogen is distributed through these offices, strategically located throughout the country to supply your needs quickly.

Atlanta, Georgia
Baltimore, Maryland
Bettendorf, Iowa
Birmingham, Alabama
Boston, Massachusetts
Buffalo, New York
Charlotte, North Carolina
Chicago, Illinois
Cincinnati, Ohio
Cleveland, Ohio
Dayton, Ohio
Detroit, Michigan
Emeryville, California

In Texas: Magnolia Airco Gas Products Company, El Paso, Fort Worth, Houston.

Kansas City, Missouri
Los Angeles, California
Louisville, Kentucky
Milwaukee, Wisconsin
Minneapolis, Minnesota
New Orleans, Louisiana
Philadelphia, Pennsylvania
Pittsburgh, Pennsylvania
Portland, Oregon
St. Louis, Missouri
Seattle, Washington
Shreveport, Louisiana
Wheeling, West Virginia



AIR REDUCTION

Offices in All Principal Cities

Headquarters for Oxygen, Acetylene And Other Gases . . . Carbide . . . Gas Welding And Cutting Apparatus And Supplies . . . Arc Welders, Electrodes and Accessories

When inquiring specify CP 3028 . . . see information request blank, pgs. 2-3

CHEMICAL

**KESSCO
PRODUCTS**

SPECIALTIES

PLASTICIZERS

Cellulose, Vinyls, Rubber, Resins

SOFTENERS

Leather, Rubber, Textile, Paper

EMULSIFIERS

Cosmetics, Foods, Pharmaceuticals,
Petroleum, Agriculture Insecticides

KESSLER CHEMICAL CO., INC.

ESTABLISHED 1921

STATE ROAD and COTTMAN AVE.

PHILADELPHIA 35, PA.

When inquiring specify CP 3029 . . . see information request blank, pgs. 2-3

Materials

Electrodes Weld All Steels

*Useful in rebuilding chemical agitator beds,
welding stray bolts, etc.*

USES — These electrodes, which have a high alloy content, have been developed for joining, filling, filleting, and overlaying all types of steel where high tensile and impact strength, good heat, corrosion and wear resistance and high hardness values are required. They can also be used as an overlay material for cast iron, and are being used as universal steel electrodes.

FEATURES — Especially well adapted for producing corrosion resistant welds. Useful for rebuilding chemical agitator beds, welding of stray bolts, salt water pipe lines and similar parts exposed to extensive corrosion action.

DESCRIPTION — These electrodes are identified as EutecTrodes 67 AC and 670 DC. The first of these is a special flux-coated electrode for arc welding. Slag inclusion and poor fusion are eliminated by the washing of this electrode on the sides of the groove. EutecTrode 670 DC is for DC arc welding. It is fast flowing, smooth operating with no spatter. EutecTrode 67 is available in sizes 3/16", 5/32", 1/8", and 3/32" diameter.

EUTECTIC WELDING ALLOYS CORP., Dept. CP, 40 Worth St., New York 13, N. Y.

When inquiring specify CP 3030 — see handy form pages 2-3

★

Lithium Aluminum Hydride Powerful Reducing Agent

Rapid reductions with yields above 85%

USES — The principal interest in the hydride is due to its usefulness as a unique, powerful reducing agent of organic compounds. Carbonyl compounds such as esters, acid chlorides, aldehydes, ketones, and acid anhydrides are reduced to alcohols; nitriles are converted to amines; aromatic nitro compounds to azo compounds; aliphatic nitro compounds to amines; and certain alkyl halides to hydrocarbons. There is considerable interest in its use as a quantitative analytical reagent for reducible groups.

FEATURES — Rapid clean cut reductions are obtained with yields which average about 85%. Carbon-to-carbon double bonds are not attacked, thus making possible selective reduction of functional groups in unsaturated compounds. Examples are reduction of crotonaldehyde to crotyl alcohol and allyl bromide to propene. The reaction of carbon dioxide to form derivatives of formaldehyde is an unusual and interesting application of the reduction of carbon-oxygen bonds. Although only preliminary work has been begun, this reaction may facilitate tracer studies by aiding in the synthesis of compounds containing carbon 14.

The reductions are carried out in ether solutions with standard equipment and techniques similar to those used in Grignard synthesis. Other attractive features are the favorable ratio of reducing capacity to mass and the low temperature at which reactions occur. Some reactions take place instantly even at — 80° C, although room temperature is the usual practice.

DESCRIPTION — The new compound, lithium aluminum hydride, was recently made available in limited quantities. This hydride was first prepared by H. I.

CHEMICAL PROCESSING Preview

Materials

Schlesinger and A. E. Finholt, of the University of Chicago, in June 1945, while engaged in research for the Naval Research Laboratory. It is only within the past ten months that descriptions of this work have been declassified and published.

The material is a white, crystalline, friable solid, stable in air at room temperature. Thermal decomposition occurs at temperatures above 125° C with the formation of aluminum hydrogen and lithium hydride. Reaction with water or alcohols occurs extremely rapidly and completely. Evolution of hydrogen is similarly noted in reactions with ammonia and primary or secondary amines. Solvents are ethers such as diethyl ether, tetrahydrofuran, and dimethyl cellosolve.

In organic chemistry lithium aluminum hydride affords a general method for making other hydrides. (A detailed description of the compound and its properties may be found in the following references:

A. E. Finholt, A. C. Bond Jr, H. I. Schlesinger, J. Am. Chem. Soc. 69, 1199, 1947, R. F. Nystrom, W. G. Brown, *ibid*, 1197)

METAL HYDRIDES, INC., Dept. CP, 12-24 Congress St., Beverly, Mass.

When inquiring specify CP 3031 — see handy form pages 2-3

★

Polystyrene Surface Finishes Overcome Crazing Tendency

Sprayed for exterior finish; wiped-in or brushed for dials and decorations

USES — These clear and colored surface finishes have been designed especially for use on molded polystyrene. They make possible the coating of the face or the back of the clear moldings in color and the wiping-in of colors for dials and decorations. There are countless varieties in effects attainable. The lacquers can be sprayed onto the polystyrene surfaces and will dry rapidly to a hard, adherent and mar-resistant finish of high gloss suitable for an exterior finish.

FEATURES — These lacquers overcome the tendency of solvents to produce crazing in polystyrene. They are resistant to oil and protect the plastic, which is not resistant to mineral spirits.

DESCRIPTION — These lacquers for polystyrene include the following: Clear Lacquer (R-6275), Blacks (R-6275) and (2069), White and Colors, as desired (R-6233), Thinner (R-6068) and Wiping Solvent (R-6267).

The difficulties with which these lacquers cope are based on several factors. First, without some attack by solvents, proper adhesion of surface finishes cannot be secured. Second, practically all styrene is molded under conditions which result in internal strains, and solvents which soften the surface under stress permit deformation, resulting in check marks or crazing.

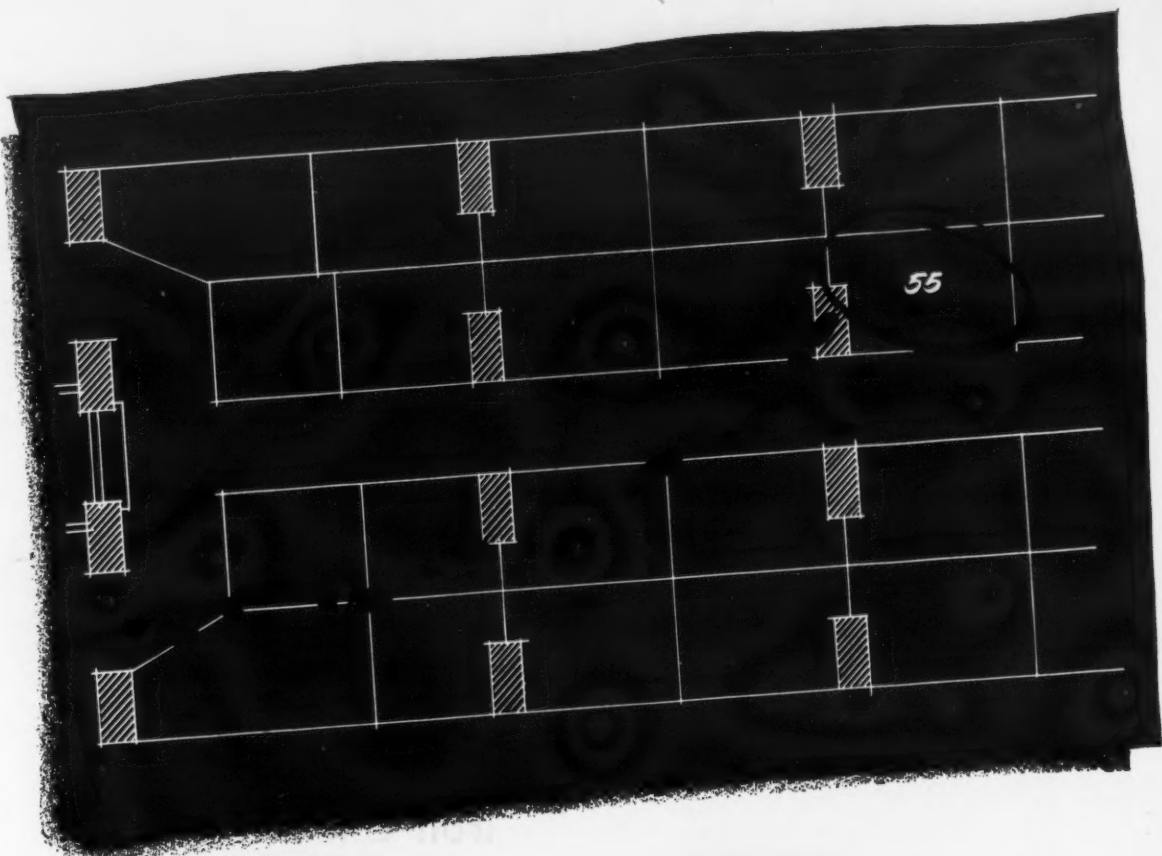
Careful use of the prescribed thinner is an important detail in using these materials. It is however, not used in wipe-on coatings or coatings applied to inlays such as dial numerals, designs, where application is usually by brush.

Lacquered pieces can be handled in one hour but maximum adhesion does not develop in less than six or eight hours.

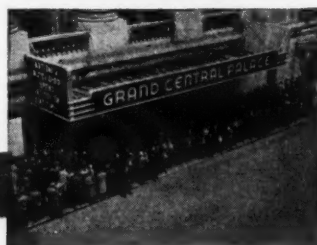
MONSANTO CHEMICAL CO., Dept. CP, St. Louis 4, Mo.

When inquiring specify CP 3032 — see handy form pages 2-3

NOVEMBER, 1947



See you at Booth 55



**SEE CSC'S EXHIBIT
BOOTH 55
GRAND CENTRAL PALACE
NEW YORK CITY
DECEMBER 1-6, 1947**

CSC

**Commercial Solvents Corporation
17 East 42nd Street
New York 17, N. Y.**

MAKE TRACKS for Booth 55 at the Grand Central Palace when the 21st Chemical Exposition opens on December 1. You'll see an exhibit of familiar CSC industrial chemicals, plus some notable "firsts" in pharmaceuticals. On display will be samples of more than 200 CSC chemicals for industry, medicine, and agriculture.

When inquiring specify CP 3033 . . . see information request blank, pgs. 2-3

OXALATES

Ammonium Oxalate

Potassium Oxalate

Iron Oxalate

Iron and Ammonium Oxalate

Iron and Sodium Oxalate

CHAS. PFIZER & CO., INC., 81 Malden Lane, New York 7, N.Y.
444 West Grand Avenue, Chicago 10, Ill.
605 Third St., San Francisco 7, Cal.

PFIZER

Manufacturing Chemists Since 1849



Materials

Water Dispersion of Buna S Type Latex Deposits Vulcanized Film

For coating paper, fabric; for dipped goods where deposition is complete on drying

USES — Coating and impregnating of fabric paper and wadding for strength, water resistance and base for further coating. Preparation of molds utilizing properties of flexibility and freedom from further heat treatments. Dipped goods where deposition of film is complete on drying. Adhesive for paper, fabric and leather where bond is improved by a deposit of cured Buna S. Also as a non-slip coating for rugs and fabrics.

FEATURES — The compound may be modified to yield various physical characteristics by addition of suitable dispersions. While this product contains no antioxidant, such a dispersion can be furnished separately. This can be mixed into the compound by the user. If desired, a special formula especially compounded with an antioxidant can be furnished.

DESCRIPTION — This water dispersion or latex of Buna S type co-polymer, (B 1700) is treated so as to deposit on drying a "vulcanized film".

Average properties: — specific gravity, 1.012; weight per gallon, 8.44 lbs.; solids content, 30-35%; pH value 9.3 to 9.8; color cream white. Viscosity (50 cc through .149 in. diameter orifice) 10 to 15 sec. Dried film textile strength — 1500 lbs. per sq. in. Dried film ultimate elongation 700 — 800%.

Aging — Greer Oven — Tensile Strength Loss 21%. 30 days Ultimate Elongation Loss 7%. Aging Oxygen Bomb Tensile Strength Loss 9%. 24 Hours Ultimate Loss None.

UNION BAY STATE CHEMICAL CO., Dept. CP, 50 Harvard St., Cambridge 42, Mass.

When inquiring specify CP 3035 — see handy form pages 2-3

★

Extends Carnauba Wax Water Emulsions; Increases Solids

Replaces gums and resins now used as extenders; used in floor wax

USES — This product — Emulsion 63 — has been developed especially for use in extending carnauba wax water emulsions. Since Emulsion 63 contains 40% solids, it can be used to advantage to increase solids of wax emulsions. It can be used to replace gums and resins now employed to extend carnauba wax. Designed to enhance water resistance, hardness, spreading properties and gloss in floor waxes.

FEATURES — Emulsion 63 in floor wax emulsions gives fine leveling or spreading on linoleum and readily builds up several coats. By the use of the 40% Emulsion 63, fewer applications are needed due to the overall increase in emulsion solids. In general Emulsion 63 is very stable and can be stored for several months without any deteriorating effect. It will deposit non-discoloring films with very desirable properties. It is uniform and readily available.

DESCRIPTION — Product is a bluish white emulsion with the following physical properties: Solids 40%, specific gravity 1.03; weight gallon 8.61 lbs.; solids gallon 3.44 lb.; surface tension 45-47 dynes/cm; pH 10. It is completely compatible with wax emulsions and can

CHEMICAL PROCESSING Preview

When inquiring specify CP 3034 . . . see information request blank, pgs. 2-3

Materials

be used to replace 25 to 40% of the wax solids in emulsions.

The maker cites its successful use in compounding a floor wax. The formula used can be varied to suit individual conditions. In many cases use of wetting agents is not necessary as these have already been incorporated in the wax emulsion.

ADVANCE SOLVENTS & CHEMICALS CORP., Dept. CP, 245 Fifth Ave., New York 16, N. Y.

When inquiring specify CP 3036—see handy form pages 2-3

★

100% Amylopectin Starch Gives Viscous, Clear, Cohesive Pastes

Textile sizings, finishes, paper and frozen foods among applications

USES—This commercial starch is of interest to paper, textile and food and other fields. The starch, or its modifications, provide textile sizings which are non-jelling with good adhesive and film forming properties and good rinsibility. It is also used to advantage in paper coatings and in frozen foods.

FEATURES—This starch—Amioca—consists entirely of amylopectin. This is generally believed to be a more or less branched or non-linear polymer of glucose. Its molecules, being highly hydrated and unable to associate readily, give rise to highly viscous, clear, cohesive pastes, free from any tendency to increase in viscosity or jell on aging.

DESCRIPTION—Amioca is obtained from domestically bred waxy maize. It comes in white powder or in pearl form resembling ordinary corn starch. It gelatinizes sharply starting at 70 degrees C. and proceeding over a range of only 8 degrees C.

Its modifications range from materials which require from 20 or more parts of water to those requiring less than one part of water at a comparable viscosity.

In contrast to Amioca, various starches such as corn, tapioca, etc. contain from 20 to 30 per cent amylose in addition to amylopectin. In pastes, amylose molecules tend to associate with each other and with the amylopectin molecules with increasing viscosity, jelling and opacity with aging.

NATIONAL STARCH PRODUCTS CO., Dept. CP, 270 Madison Ave., New York, N. Y.

When inquiring specify CP 3037—see handy form pages 2-3

★

"Building Savers" Catalog Includes Floor and Roof Treatments, Concrete Admixtures

A 16-page condensed catalog describes materials for building maintenance and construction. Handily tabbed for quick reference, the pages cover floor treatments, concrete and mortar admixtures, waterproofing and damp-proofing products, paints and protective coatings, caulking compounds, roof coatings and waxes.

Besides highlighting the advantages of each material, catalog gives coverage figures, packaging data and, in several instances, "thumbnail" application suggestions. "Building Savers" catalog.

L. SONNEBORN SONS, Inc., Building Products Division, Dept. CP, New York 16, N. Y.

When inquiring specify CP 3038—see handy form pages 2-3

NOVEMBER, 1947

CHEMICAL EQUIVALENT OF DISTILLED WATER



AT ONE-THOUSANDTH OF THE COST!

"A thousand gallons of water from our FILT-R-STIL* Demineralizer cost us only as much as one gallon of distilled water," writes one important manufacturer. Another declares, "Our water costs have been cut 90%."

Those are just two typical reactions from users of FILT-R-STIL Demineralizers in all branches of industry. They happen to emphasize economy. But look at these other significant advantages:

FILT-R-STIL DEMINERALIZERS PRODUCE...

- ① Water of uniformly high quality, even with a varying raw water supply.
- ② Water stripped of its ionized solids content . . . completely or partially, as specified.
- ③ Water that is standardized and quality-controlled . . . like any other raw material.

SIMPLE TO OPERATE...

- ④ No heat, no steam, no cooling water required . . . no scale formation.
- ⑤ Ready for immediate operation . . . no long, preliminary "boil-out" required.
- ⑥ Suited for continuous or intermittent operation . . . turned on and off like a faucet.
- ⑦ Automatic, precise, quality controls . . . indicating actual quality of all treated water.
- ⑧ Compact, self-contained, completely assembled . . . requires only connection to raw water source, drain, electrical outlet, and service.

* Reg. U. S. Pat. Off.

Cyanamid has just published a new, data-packed booklet giving all the details on FILT-R-STIL Demineralizing Units. If water is one of your raw materials, clip and mail the attached coupon today.

American Cyanamid Company
Ion Exchange Products Dept. 10
30 Rockefeller Plaza, New York 20, N. Y.

C.P.R. 6

Send me your new booklet on FILT-R-STIL Demineralizers. Briefly, my water problem is of the following nature:

AMERICAN CYANAMID COMPANY

Name _____
Company _____
Address _____
City _____ State _____

When inquiring specify CP 3039 . . . see information request blank, pgs. 2-3

Material Handling

Hydraulic Ramps Raise, Lower 66" to Speed Truck-Loading at Docks

Permit direct truck-to-plant materials handling by overhead monorail or floor trucks

Two hydraulic ramps, one raised, one lowered, at The Joyce-Cridland Co. plant, Dayton manufacturers of jacks and lifts

USES — Hydraulically-operated loading ramps, or loading dock lifts, for raising and lowering trucks and truck-trailers to facilitate various types of materials handling at different levels.

For loading and unloading heavy equipment directly between plant floor and truck interiors, without intermediate manual assistance. For wider utility of industrial floor trucks and overhead monorail equipment. For accurate leveling of truck interiors with loading platforms, and accurate positioning of vehicles.

FEATURES — Coordinates various functions of truck-to-plant and plant-to-truck materials handling, permitting industrial floor trucks to be driven, with their loads, into

larger vehicles, or permitting telescopic overhead monorail systems to propel into, or over, truck bodies and unload directly from hoist. Either of these functions may be performed without re-positioning cumbersome truck-trailers or re-spotting loads.

Truck bed can be accurately aligned with dock-level to admit floor trucks. Fast and efficient. Reduces handling to a minimum. Product need not leave monorail system or floor truck until loaded aboard outgoing vehicle. Simplifies positioning and spotting of loads, saving back-strain and man-hours.

DESCRIPTION — Each ramp consists of a hinged floor-surface of checkered steel floor plate, with angles and channels composing framework. These are installed in front of, and adjacent to, the loading dock.

Length of ramp is 17' 7". A hydraulic lift beneath rear section of ramp surface raises or lowers an 8 x 9' section of the ramp a distance of 66", placing bed of vehicle above, below, or level with shipping platform.

THE JOYCE-CRIDLAND COMPANY, Dept. CP, 2027 E. First St., Dayton 3, Ohio.

When inquiring specify CP 3040 — see handy form pages 2-3

★
Dock lift is lowered to align truck bed with plant floor, permitting floor trucks to enter

★
Dock lift is raised to permit telescoping boom to move load inside vehicle without re-positioning trailer or load

Fork Truck Clamp Arm Attachment Holds Heavy, Flat Loads Securely

Layer of sponge rubber protects loads from damage; lifts up to 4000 lbs., and to heights of 114 inches

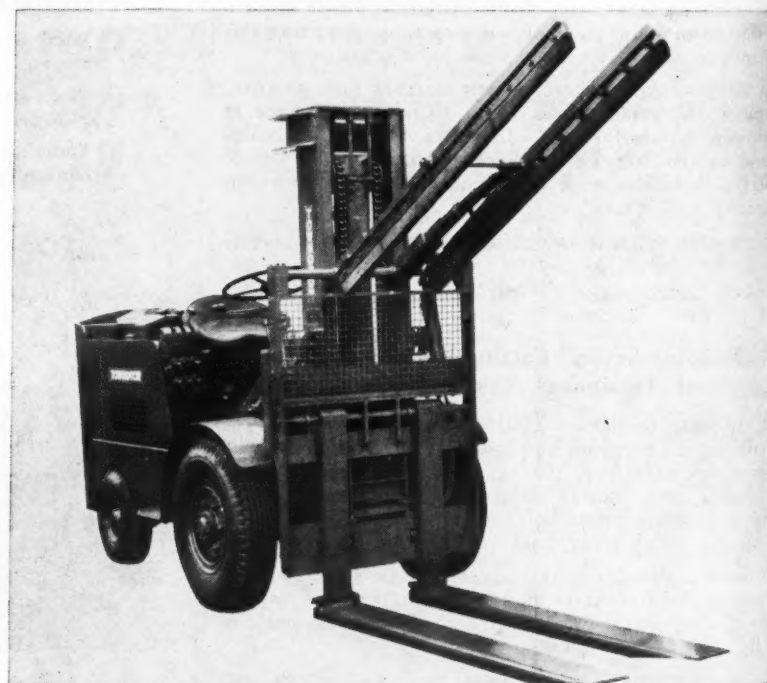
USES — This clamp arm attachment was originally designed by a large cooperage company to enable fork lift trucks to handle loads of barrel staves. Its performance demonstrated its capacity for handling a variety of bulky, unwieldy loads. The illustration shows how one of these trucks can pick up a load of box sides for transportation to storage.

FEATURES — These trucks that are clamp-arm equipped not only pick up difficult loads but do so without damage to the load, a distinct advantage when the material is rather easily crushed, broken or otherwise endangered.

DESCRIPTION — This special truck attachment consists of a set of clamp arms which are hydraulically operated to grip the load. The action is controlled by means of a valve adjacent to the operator. Both arms are equipped with a layer of sponge rubber along the

bottom edge to prevent marring or damage to the load and to provide a firm grip.

The illustration shows a clamp attachment mounted on a Towmotor Lt-60 truck. The arms move from a normal vertical position to a horizontal position on top of the load. Two standard Towmotor accessories, the extension backrest, with special screen, and a pair of extension forks 75 inches long have been included in this installation to handle the long loads encountered. Loads of 4000 pounds are easily lifted to the full 114 inches of lift provided by the unit.



Clamp arm attachment permits fork truck to lift large flat loads — insert shows screen, clamp arms and fork extensions

In its standard form or with special adaptations such as curved arms for cylindrical loads, the clamp attachment offers many time and labor saving advantages.

TOWMOTOR CORP., Dept. CP, 1225 East 152nd St., Cleveland 10, Ohio.

When inquiring specify CP 3041 — see handy form pages 2-3

★

Book Truck Cures Rubber-in-Process, Dries Plastics

Built to fill individual needs; shelves stay upright when raised, for full access

USES — Book truck, especially designed for curing rubber in process. Also for use in producing plastics and other products where rapid drying or curing of sheets or parts is essential.

FEATURES — Built for rough usage, additional rigidity and long life. Designed to meet individual specifications.



Book truck for rapid drying or curing

DESCRIPTION — Manufactured in all sizes to meet exacting production requirements. Shelf strength is in accordance with individual weight requirements. Equipped with metal or rubber tired wheels or casters; or with legs, or skids to accommodate power-lift or hand-operated trucks.

Heavy gauge steel construction. Reinforced, welded all-steel shelves. Long, sturdy extension springs permit easy raising or lowering of individual shelves.

When raised, shelves automatically are held upright in tilted position to permit operator complete access from any position.

PALMER-SHILE COMPANY, Dept. CP, 16016 Fullerton Ave., Detroit 27, Mich.

When inquiring specify CP 3042 — see handy form pages 2-3

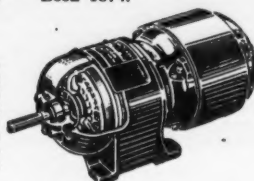
NOVEMBER, 1947

Keep Production Up with *Efficient* LINK-BELT POWER TRANSMISSION MACHINERY



P.I.V. Gear Speed Changer permits infinite variation of speed while machine is running; holds set speed indefinitely, without slip or creep. All metal wholly enclosed. Details in Book 1874.

Electrofluid Drive combines hydraulic coupling with standard induction motor; reduces starting current; avoids "over-motoring" — absorbs shock; protects machinery. Details in Book 2085-A.



Silverstreak Silent Chain Drive gives positive, flexible transmission without slip at high speeds. Runs slack on short centers. Ask for Data Book 125.

Silverlink Roller Chain Drive for high or low speed transmission; coordinating rotation of several shafts in either direction; short or long centers. Single or multiple widths. Details in Book 1957.



Steel, Premal and Malleable Chain Drives where extraordinary strength is needed, on slow and medium speeds, these chains are the standard by which performance is gauged. Data Book 1994.



V-Belt Drives. The Link-Belt Line of Power Transmission Machinery includes a complete line of Texrope V-Belt Drives. Catalogs on request.

Ball Bearing Mounted Units for light and medium duty. Pillow blocks, with solid or split housings, flanged, cartridge and take-up units, self-aligning, in fixed or floating types. Ask for Book 2094.



Roller Bearing Mounted Units for heavy duty service, self-aligning, for fixed or floating shafts, press-fit or adapter type, in split pillow blocks. Ask for Book 2095.

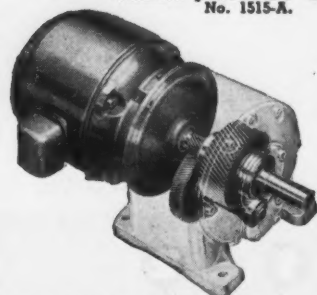


Unmounted Ball and Roller Bearings provide self-alignment for radial, thrust or combination loads. Offer great economy of application. Details in Books 2094 and 2095.

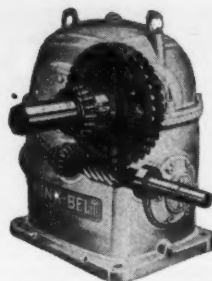
Robbitted Bearings in widest selection of types; solid or split housing; grease or self-oiling; light and heavy duty service. Data in Book 1997.



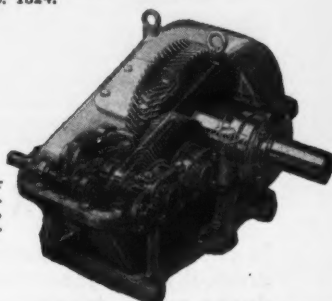
Link-Belt Gearmotors, self-contained power unit. Book No. 1515-A.



Worm Gear Reducers for high ratio reductions horizontal or vertical drive shafts. Data in Book No. 1824.



Herringbone Gear Reducers for large reductions in limited space. High shock resistance. Single, Double or Triple Reductions. Data Book No. 1819.



THERE'S A LINK-BELT SPEED REDUCER FOR EVERY SITUATION AND SERVICE

Any industrial application for a speed reducer can be filled with a Link-Belt unit — and satisfactory results assured. Link-Belt manufactures all three standard types, and Link-Belt power transmission specialists can offer reliable recommendations as to size and type to suit your precise need.

In respect to any unit in the broad Link-Belt line, Link-Belt engineering advice on your power transmission problems is completely unbiased.

10,625-A

LINK-BELT COMPANY

The Leading Manufacturer of Conveying and Mechanical Power Transmission Machinery

Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Dallas 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities.



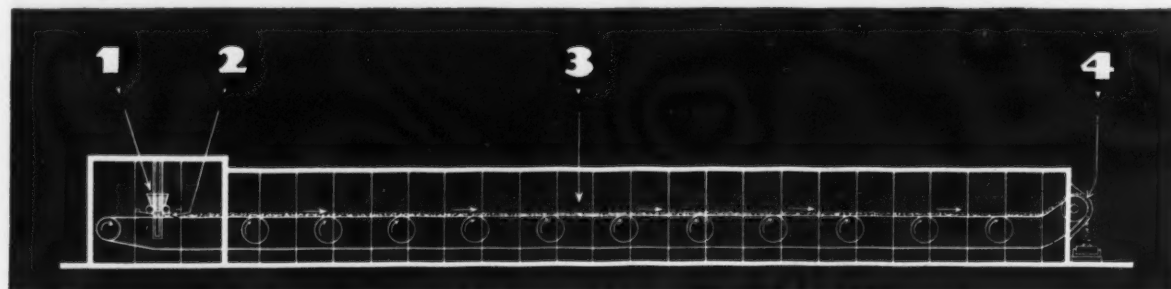
LINK-BELT

Power Transmission Machinery

When inquiring specify CP 3043 . . . see information request blank, pgs. 2-3

CLAY DRIED TO UNIFORM MOISTURE CONTENT OF 3.1% (B.D.W.B.)* AT RATE OF 2 TONS PER HOUR

*Bone Dry Weight Basis



in PROCTOR CONTINUOUS CONVEYOR SYSTEM

In one typical installation of a Proctor individually designed continuous conveyor drying system, for use in drying clay, here is what takes place.

① Wet clay, with a moisture content of 42.1% (B.D.W.B.) is delivered to the pre-forming feed of the dryer, from a continuous filter.

② Coming to the hopper of the Proctor rolling extruder feed, in this highly moist state, the material is forced through a perforated plate by rolls moving back and forth, and deposited onto the conveyor of the dryer in spaghetti-like extrusions. This particular Proctor pre-forming feed is ideally suited to the handling of clay, for the initial moisture content and the physical characteristics of this product are such that it will hold a definite shape after extrusion.

③ Loaded to a uniform depth on the moving conveyor, the clay is conveyed through the drying chambers, where heated air at 212° F. is circulated through the bed of material. By forming the clay into these small, uniform shapes, more rapid diffusion is possible, which accounts for rapid drying and the uniformity of the finished

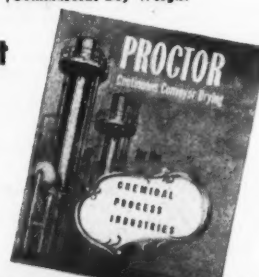
clay. ④ After 42 minutes of drying time, the clay, uniformly dried to a moisture content of 3.1% (B.D.W.B.) is discharged from the dryer at the rate of 4,160 pounds—or more than two tons (C.D.W.†) per hour. Clay, thus dried, in the form of small particles, is uniformly dried all the way through to the center of each particle. This makes possible rapid and complete dispersability in water and, therefore, makes the clay ideally suited to subsequent use.

Proctor continuous conveyor drying systems, with pre-forming feeds, engineered to the individual product requirements, are in operation for a wide variety of wet-solids. It is safe to say that there are hardly two wet-solid drying problems exactly alike; that is why it pays to consult Proctor engineers early when you are considering drying equipment. On the basis of their experience they will be able to make laboratory tests on your product and then translate the results into a recommended system that will meet all of your requirements.

†Commercial Dry Weight

This is a case history taken from this new Proctor booklet

A new 12-page booklet on "Proctor Continuous Drying for the Chemical Process Industries" is available upon request. It contains many case studies showing the application for Proctor individually designed systems. Write for your copy of this informative booklet today.



PROCTOR & SCHWARTZ, INC., Philadelphia 20, Pa.

When inquiring specify CP 3044 . . . see information request blank, pgs. 2-3

Material Handling

Self-Locking Truck Attachment Up-Ends 500-lb. Kegs, Drums

*Saves time, making job a 1-man operation;
slight downward pull does the trick*

USES — Barrel up-ender for flipping barrels, drums and kegs up on their bottoms.

FEATURES — Easily attached or removed without bolts or nuts. Permits one man to up-end a 500-lb. barrel like it was a 50-lb. keg. Saves time and helps eliminate back-strain.



Barrel up-ender

DESCRIPTION — Locks itself in place on manufacturer's No. 90 barrel truck.

Long, smooth prongs work like a pair of oversize crow-bars, multiplying leverage so that only a slight downward pull on truck handles is required. Trucker does not touch the barrel. Model BT-9.

THOMAS TRUCK AND CASTER COMPANY, Dept. CP, 71 Mississippi River, Keokuk, Ia.

When inquiring specify CP 3045 — see handy form pages 2-3

★

Text Lists 1920-'44 Literature on Apparatus, Procedures of Distillation, Rectification

"Theory, Apparatus, As Well As Procedure of Distillation and Rectification" is a 180-page bibliography of published literature covering the years 1920 to 1944. Paper-bound, work-pocket size. Originally issued, 1944, by VDI-Technical Commission for Process Techniques, Berlin. Reproduced by authority of Alien Property Custodian.

Typical divisions include: theory of exchange process; calculation and design of distillation columns; vapor-liquid equilibrium; dephlegmation and rectification; various types of columns; various methods of distillation, etc. Many of the foreign references listed are available in Washington, and publisher reports that efforts are being made to arrange the filling of any requests. Price, \$6.75. Remit to publisher, name below, or inquire on inquiry slip.

HOBART PUBLISHING COMPANY, Dept. CP, Box 4127 Chevy Chase Br., Washington 15, D. C.

When inquiring specify CP 3046 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

Having Trouble ELEVATING YOUR BULK MATERIAL?

LOOK TO "HAMMOND" Screw-Lift

Handles any free flowing Bulk Material — Barley —
Bone — Borax — Corn — Coal — Flour — Lime —
Rice — Soybeans — Sugar — Wheat — etc.

REQUIRES LITTLE SPACE
NO CHOKING
NO NOISE
NO DIRT

Our patented construction does away with troubles formerly experienced with Vertical Conveyors, patented stabilizer bearings maintain perfect alignment . . . no possibility for distortion or whip, built in assemblies to suit any plant layout.

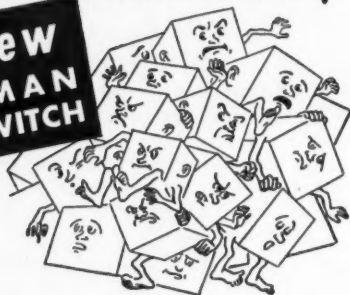
Types available for capacities of 75, 300, 1000 or 2500 cu. ft. per hour.
Write for form No. M-500-2, which will enable you to outline your problem.

Screw Conveyor Corporation
439 HOFFMAN ST. HAMMOND, IND.
ENGINEERS MANUFACTURERS
TRADE MARK REG. PRODUCTS U.S. PAT. OFFICE

When inquiring specify CP 3047 — see handy form pages 2-3

Eliminate PACKAGE JAMS!

WITH New BUSCHMAN 3-WAY SWITCH



Flip the lever and the new Buschman Switch shifts packages in any of three directions . . . Switch fits any Buschman roll or wheel conveyor . . . INSTALLED IN A JIFFY. Write for new Bulletin.

SPRING GROVE
& CLIFTON
Cincinnati 32,
Ohio

The E. W. BUSCHMAN Co.

When inquiring specify CP 3048 — see handy form pages 2-3

NOVEMBER, 1947

Material Handling

Fork Truck Slewing Boom Lifts 1820 Lbs.

Attachment converts standard unit for crane service

USES — Makes it possible for fork trucks to perform work usually requiring motorized slewing cranes. The unit is designed to perform all the usual operations in heavy-metal and similar industries requiring crane-type handling equipment.

FEATURES — The boom is quickly detachable and may be replaced by standard forks, gooseneck crane, motorized fork carriage, ram or any similar attachments for standard or specialized handling operations. With only one addi-



Boom max. height 18'5"

tional motor, the attachment is able to perform all of the functions requiring four motors on a conventional slewing industrial crane. Verticle lifting is achieved through the truck's regular carriage lift, while forward and reverse movement is effected by the truck's tilt mechanism as well as the forward and reverse movement of the truck.

DESCRIPTION — Capacity up to 1820 pounds. Maximum height 18 feet, 5 inches, and a horizontal arc of 120 degrees. The boom is adjustable in outreach from 54 1/2 inches to 108 1/4 inches. It is vertically adjustable from horizontal to an upward angle of 30 degrees and swings horizontally 60 degrees to either side of center.

The truck designated for use with this attachment is the 6000 pounds fork truck chassis.

AUTOMATIC TRANSPORTATION CO., Dept. CP, 149 West 87th St., Chicago 20, Ill.

When inquiring specify CP 3049 — see handy form pages 2-3

★

Tell Your Handling Equipment Story

The Material Handling Section offers you an opportunity to tell readers of **CHEMICAL PROCESSING** Preview about new developments you are contributing to this field. Submit pertinent facts to our editors for their consideration.

CHEMICAL PROCESSING Preview

151 N. Michigan Ave., Chicago 11, Ill.

UP HILL!

Actually pulling
a fully loaded
2,000 lb. Electric
Hoist up a 5% grade . . .

New Trojan TRACTOR

The TROJAN TRACTOR can be
applied to TRAVEL . . .

1. Present hand travelled mono-rail hoists.
2. Existing hand travelled crane bridges.
3. Monorail conveyor lines.
4. Open and Close garage and hangar doors.

You probably have slow, hand propelled units which the Trojan Tractor can move by power,—faster and economically. Let us know what they are; we will give you the details.

**DETROIT HOIST
& MACHINE CO.**

8222 MORROW ST.
DETROIT 11, MICH.

When inquiring specify CP 3049A — see handy form pages 2-3

SPEED STRAPPING with SIGNODE Reels!



SIGNODE REELS prevent bunching and kinking. They keep strapping off the floor. With strap flowing freely and evenly from the reel, the operator is able to strap more units per hour.

There is a Signode Reel to meet every condition—for use on floors, overhead, and under benches. Shown here is Model 9B—popular portable unit with tray for tools. Makes strapping operations possible anywhere in your plant.

For the full story of the efficiency and economy of

Signode Reels, write for Catalog No. 11.

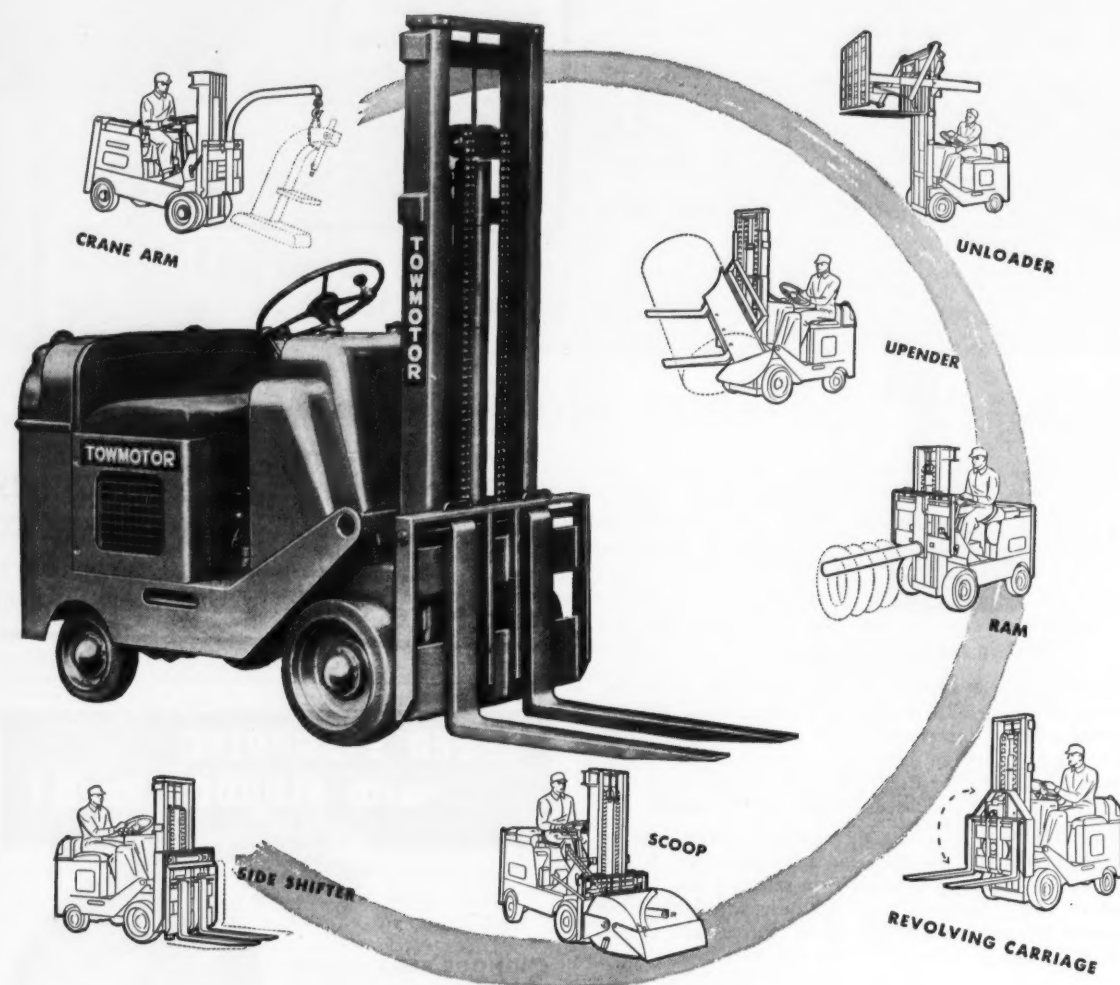
There are Signode tools and strap sizes for protecting every type of shipment . . . packages, cartons, boxes, bundles, crates, skids . . . and car loading.

SIGNODE

STEEL STRAPPING COMPANY
2858 N. Western Avenue
Chicago 47, Ill.

When inquiring specify CP 3050 — see handy form pages 2-3

There's a **TOWMOTOR** FORK LIFT TRUCK and **ACCESSORY** for Your Job!



Towmotor Fork Lift Trucks provide efficient, safe and economical handling for all materials, regardless of type, shape or size. Now, to still further increase handling efficiency, the accessory equipped Towmotor can also be used for standard fork lift truck operations. Thus it handles the regular, as well as the unusual and

difficult loads that are headaches in so many factories and warehouses. Let Towmotor solve your materials handling problems. Send for Towmotor Accessory Data Sheets today. Towmotor Corporation, Division 23, 1226 E. 152nd Street, Cleveland 10, Ohio.

SEND FOR SPECIAL BULLETINS DESCRIBING THE TOWMOTOR

Revolving Carriage • Side Shifter • Unloader • Upender • Scoop • Crane Arm
Ram • Extension Forks • Extension Backrest
Overhead Guard



TOWMOTOR
THE ONE-MAN-GANG

**FORK LIFT TRUCKS
and TRACTORS**



When inquiring specify CP 3051 . . . see information request blank, pgs. 2-3

Material Handling

Motor Traveled Monorail Tractor

For power operation of existing manual type units

USES—Handles comparatively heavy loads and provides an effective means of traveling existing hand-moved units by power. It will travel hand-operated monorail hoists and operate over monorail conveyor lines. Also it can be used to open and close garage doors and in slightly altered form it can be applied to travel existing hand operated crane bridges by power.



Tractor travels load up monorail

FEATURES — This tractor suspended on a pair of wheels that run on top surfaces of an overhead, monorail beam flange, is so fulcrumed that its own weight exerts a pressure against a second pair of wheels which run on the underside of the flange. The result is an effective biting action that permits a relatively small, compact, light weight tractor to travel loads even up inclined monorails.

DESCRIPTION — Photo shows general details of this tractor and how it carries loads, even up inclined rail. Many material handling and various other types of units at present hand operated and difficult to move can be power traveled by this unit.

DETROIT HOIST & MACHINE CO., Dept. CP, 8226 Morrow St., Detroit, Mich.

When inquiring specify CP 3052 — see handy form pages 2-3

★

Magnetic Screen Filters of 50-2000 Gals. Remove Iron Particles from Liquids

Magnetic screen filter separators for removing iron or steel particles from liquids are described in a 4-page bulletin. Open and closed-circuit types with capacities of 50 to 2000 gallons per hour are explained. Literature includes photographs, cut-aways and specifications. Bulletin 120-B. Sec. 16.

STEARNS MAGNETIC MFG. COMPANY, Dept. CP, Milwaukee 4, Wis.

When inquiring specify CP 3053 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

IT'S EASY WHEELING
WITH THE WHEEL-EZY!



Model CK-45-AGH



Model CK-145-D-GP

Models are available with single or double handles, solid plate or open nose. The combination of your choice—with wheels of Nicro Steel (NH), Resinoid (DUR), Air wheel rubber tired (AGH) or General Pneumatic (GP).

OFFICES IN PRINCIPAL CITIES



Manufacturers of
STEEL FORGED CASTERS • TRUCKS • CONVEYORS • POWER BOOSTERS

The Rapids-Standard Co., Inc.

Sales Div.—350 Peoples Nat'l Bank Bldg., Grand Rapids 2, Mich.

When inquiring specify CP 3054—see handy form pages 2-3

MOVE MATERIALS FASTER AT LOWER COST THE "Weld-Bilt" WAY

Let a WELD-BILT engineer show you ways to speed up your materials handling methods while reducing your operating costs.

PORTABLE ELEVATORS • HYDRAULIC LIFT TRUCKS • 2 & 4 WHEEL TRUCKS • TIERING MACHINES • BARREL TRUCKS & RACKS

Leading American Industries use and endorse WELD-BILT equipment. Write for illustrated folder.

The WELD-BILT Heavy-Duty Hydraulic Lift Truck—6,000 to 10,000 lb. Capacities.



WELD-BILT Portable Electric and Hand-Operated Elevators are designed for a wide range of applications in many styles and sizes.



WEST BEND EQUIPMENT CORP.

226 WATER ST. WEST BEND, WIS. MATERIALS HANDLING ENGINEERS

When inquiring specify CP 3055—see handy form pages 2-3

NOVEMBER, 1947

Material Handling

Nylon in Transverse Breaker Improves Conveyor Belts

Enhances ability of belt to withstand gouging, heavy loading

USES — These conveyor belts are particularly valuable in extremely severe service applications where excessive gouging, heavy loading, are encountered.

FEATURES — Among principal advantages of the use of nylon in this service, it is stated, is the higher tensile strength of the cord compared to cotton. Tests indicate that it is at least 55% stronger. This increase is gained despite the fact that the nylon cord is less than half as thick as the cotton. This in turn permits a great increase in the thickness of the shock absorbing rubber cushion on both the top and bottom of the transverse breaker.

DESCRIPTION — The transverse cord breaker consists of layers of parallel cords, embedded in rubber laid transversely on the belt and acting as a shock absorber. It retards gouging or cutting because of its lengthwise stretch, and keeps the rubber in the cover and carcass from being distorted beyond its limits, increasing belt life.

The transverse breaker also increases the adhesion of the rubber carcass of the belt to the cover. Tests reveal that the nylon cord now being used has as good or better adhesion qualities than the cotton formerly employed.

The nylon cord has more than twice the stretch and recovery of cotton before the breaking point. This gives the new breaker and belt itself greater resistance to severe impact at the conveyor loading points, and consequently protects the belt carcass from shock for a longer period.

Overwear of the belt with the new nylon transverse breaker is reduced because of the improved cushioning provided by the greater thickness of rubber on top of the nylon cord breaker. Additional advantages are that the cord will not mildew or rot from dampness and moisture. If there should be a cut in the belt during operations, it is not affected by weak acids and alkalis.

THE B. F. GOODRICH CO., Dept. CP, Akron, Ohio.

When inquiring specify CP 3056—see handy form pages 2-3

LEWIS-SHEPARD

For 32
years..

SIGN OF A GREAT LINE

YOU can make your factory bigger, multiply your manpower, speed up production, cut down overhead and Save Money with L-S POWER FORK TRUCKS • POWER JACKLIFTS MECHANICAL JACKLIFTS • SINGLELIFTS HYDRAULIC HANDLIFT TRUCKS STACKERS • PALLET STACKERS CRANES • PALLET TRUCKS FLOOR TRUCKS • SKIDS

Write for Catalog
of A Great Line



TRADE MARK

Materials Handling Equipment
by **LEWIS-SHEPARD PRODUCTS INC.**
146 WALNUT ST., WATERTOWN 72, MASS.

REPRESENTATIVES IN PRINCIPAL CITIES CONSULT YOUR PHONE DIRECTORY

When inquiring specify CP 3057—see handy form pages 2-3



RECEIVING TO STORAGE

STORAGE TO PRODUCTION

PRODUCTION TO ASSEMBLY

ASSEMBLY TO WAREHOUSE

WAREHOUSE TO SHIPPING

**From Receiving to Shipping
CLIP COSTS
WITH CLARK**

THIS IS THE MODERN WAY to handle any material that can be assembled in palletized units...

THE CLARK FORK TRUCK lifts, carries, tiers anything in cartons, barrels, bags, crates, drums...

YOU CAN REDUCE demurrage, accidents and damage losses. By tiering units to ceiling heights you can multiply your storage space...


FROM RECEIVING TO SHIPPING, movement of materials can be accomplished more efficiently and economically...

Meet us in Cleveland in January at the **NATIONAL MATERIALS HANDLING EXPOSITION Convention Hall—January 12 through 16**

You can count on Clark Tractor to "steal the show" as it did in '47 with sound, practical, new ideas for cutting handling costs. Both gas-powered and battery-powered fork-lift trucks and towing tractors, together with attachments—products of Clark's traditional quality, versatility and leadership.

**CLARK EQUIPMENT COMPANY
TRUACTOR DIVISION
BATTLE CREEK, MICHIGAN**

CLARK GAS OR ELECTRIC POWERED
FORK TRUCKS
AND INDUSTRIAL TOWING TRACTORS

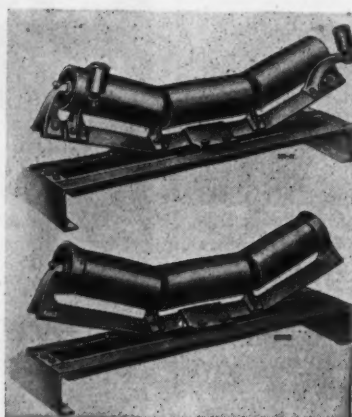


When inquiring specify CP 3058—see handy form pages 2-3

Material Handling

Self-Aligning Idlers Facilitate Belt Conveyor Service

Guide-rollers and flared, friction-type end pulleys aid materials-handling



Self-aligning belt idlers

USES—Improved types of self-aligning idlers for belt conveyor service.

DESCRIPTION—Illustration shows: (above), the positive-type self-aligning idler, with guide rollers; and (below), the self-aligning idler with flared, friction-type end pulleys. The latter is particularly suitable for reversible belts.

These are described in a 160-page belt conveyor catalog and handbook featuring standardized units for easy selection of belt conveyors.

Catalog No. 785.

JEFFREY MANUFACTURING COMPANY, Dept. CP, Columbus 16, O.

When inquiring specify CP 3059—see handy form pages 2-3

★

Two-in-One Conveyor Turns Over, Handles Wide or Narrow Items

Gravity roller conveyors and accessories are the subject of a 12-page catalog. Various types shown include those for production-line, dairy and general materials handling. A dual-purpose unit for handling both large and small containers on the same conveyor may be turned over, leaving guard-rails out-of-the-way of containers which are wider than conveyor-width.

Specifications and in-use photographs are included. Diagrams illustrate high and low-set conveyor channels. Conveyor stands, curves, cable reel units, spur sections, hinged sections, switches and stops are covered. Bulletin 100.

HARRY J. FERGUSON COMPANY, Dept. CP, 149 West Ave., Jenkintown, Penna.

When inquiring specify CP 3060—see handy form pages 2-3

★

Line of Tube Fabricating Equipment Includes Production and Hand Benders

Tube fabricating equipment is the subject of a 12-page catalog. Literature illustrates and describes production tube bender and accessories, hand benders, cutters, flaring tools, beading kit and tube fabricating service.

Operational information and pictures of tools in use are included. Catalog 401.

THE PARKER APPLIANCE COMPANY, Dept. CP, Cleveland 12, O.

When inquiring specify CP 3061—see handy form pages 2-3

INCLINEBELT



The Standardized Inclinebelt elevates and lowers commodities. It provides an "off the shelf" conveyor for this common handling problem. The rough surface belt is set permanently at 28 degrees. Two belt widths are available: 14 inch for commodities up to 15½ inches wide; 24 inch for commodities up to 25½ inches wide. Both widths are made in lengths for floor to floor elevations of 8 ft. to 14 ft. 6 inches inclusive. Furnished with or without the horizontal feed section at the bottom. Top end is curved like a gooseneck to provide horizontal feed or discharge of commodities. The size and type motor for the conveyor depends on local requirements and current available. For complete information write for Bulletin CP-117, STANDARD CONVEYOR CO., General Offices: North St. Paul 9, Minnesota. Sales and Service in Principal Cities.

**STANDARD
CONVEYORS**

When inquiring specify CP 3062—see handy form pages 2-3

**YOU CAN HANDLE
TONS WITH EASE
AND SPEED**

... when you move it with a

YALE

SPUR-GEARED CHAIN HOIST

**THERE'S A YALE
HOIST TO FIT
YOUR NEEDS**

Send for catalog today, specifying type of hoist in which you are interested.

YALE THE YALE & TOWNE MANUFACTURING CO.
4530 Locust Street Philadelphia 24, Pa.
ELECTRIC INDUSTRIAL TRUCKS • HAND LIFT TRUCKS • KRON DIAL SCALES

When inquiring specify CP 3063—see handy form pages 2-3

Merck & Co., Inc. Speeds Materials Handling with IRONBOUND SKIDS

● You, too, can increase the efficiency of your plant with adequate skid and semi-live skid facilities engineered to handle your particular problems. Write for information, today. Illustrated literature on request.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
60 HOFFMAN PLACE
HILLSIDE, NEW JERSEY



When inquiring specify CP 3064—see handy form pages 2-3

THOMAS "JOB-SUITED" PLATFORM TRUCKS

Available with many
different Superstructures



Type D Superstructure
shown. Type A below. Many others
catalogued.

"Job-Suited" is more than a trade name or slogan. It is a revolutionary plan of truck manufacture and cataloging, developed by Thomas' designing engineers. Now you can easily, quickly, accurately choose the most efficient truck for your particular material handling problem. Thomas Model 3400 truck is made in 10 sizes, with over 1000 different handles, boxes, shelves, etc. . . . one of them "Job-Suited" to your business. Write for catalog MC.



THOMAS SAFETY ONE MAN BARREL TRUCK

Easy for one man to handle up to 1000 lb. barrels, drums, quickly, safely. Simply engage sliding hook in rim of barrel, pull handles slightly—held with feet. That's all! Loads, unloads automatically. Trucker never touches barrel. Load balanced perfectly. No arm strain. Welded steel, rubber tires. Hyatt bearings. Low priced. Try one. Return collect if not "best yet".

THOMAS TRUCK & CASTER CO.
4789 Mississippi River Keokuk, Iowa

When inquiring specify CP 3065—see handy form pages 2-3

Material Handling

Differential Chain Hoists in 4 Sizes

Fewer parts; light weight

USES — This line of differential chain hoists provides a choice of units to meet individual requirements for safe, easy handling of loads.

FEATURES — Exceptionally few parts contributing to lighter weight without loss in strength. Holds load at any point; will not self-lower.

DESCRIPTION — The hoists have full weight, accurately cast sheave wheels, high tensile malleable iron frames with reinforcing ribs, drop forged heat treated hooks, special analysis hoist chains precision made to fit sheave pockets, thereby assuring smooth, free operation. Lower hook mounted on a ball thrust bearing for easy alignment of loaded chain to upper pocketed sheave and swiveling of load. Made in ¼, ½, 1 and 1½ ton capacities.

CHESTER HOIST CO., Dept. CP, Lisbon, Ohio.

When inquiring specify CP 3066
— see handy form pages 2-3

Gears, Couplings, Reducers and Drives Fill Many Needs

A 12-page condensed catalog covers gears, drives, couplings and allied equipment for meeting many requirements and uses. Gears, for example, range in diameters from 1" to 18", in various types. Many types of speed and motor reducers are described and illustrated.

Couplings for protecting connected machinery from shock, vibration, and misalignment, and for fluctuating torque applications, are included.

THE FALK CORPORATION, Dept. CP,
3001 W. Canal St., Milwaukee 8, Wis.

When inquiring specify CP 3067
— see handy form pages 2-3

Portrays Steam Separation, Scrubbers, Separators

Steam separation equipment for boiler drums, also steam scrubbers and steam separators, are discussed in a 16-page booklet. Literature illustrated with diagrams and drawings.

THE BABCOCK & WILCOX COMPANY, Dept. CP, 85 Liberty St., New York 6 N. Y.

When inquiring specify CP 3068
— see handy form pages 2-3

Reduce LABOR Costs Increase material handling efficiency

with DRACCO PNEUMATIC CONVEYORS



Consult
DRACCO
Engineers

Material handling costs can be reduced in many plants. DRACCO Pneumatic Conveyors move chemicals, grains and granular materials with a minimum of manual labor — ONE man and a DRACCO Pneumatic Conveyor invariably replaces SEVERAL men. Materials are moved more efficiently and cheaper — with fewer man hours. Why not let DRACCO Engineers check your present material handling methods with a view of recommending a BETTER method requiring LESS labor. They have over 30 years of experience in material handling.

For Further Information Write

DRACCO CORPORATION

4060 E. 116th St., Cleveland 5, Ohio New York Office: 130 W. 42nd St.

**DUST CONTROL EQUIPMENT
PNEUMATIC CONVEYORS • METAL FABRICATION**

When inquiring specify CP 3069—see handy form pages 2-3

DON'T KEEP These 6 Culprits ON YOUR PAYROLL

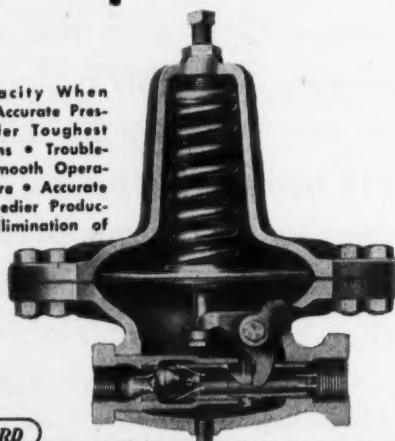
FIRE THEM BY INSTALLING

CASH STANDARD Streamlined TYPE 1000 PRESSURE REDUCING VALVES

THERE are no jobs open for these cost makers in plants where the CASH STANDARD Streamlined Type 1000 Pressure Reducing Valve is installed. If such troubles as these six culprits represent are pestering you and costing good money while doing it, put an immediate and permanent stop to them. The STREAMLINER has a way of performing that definitely scratches these costmakers off your list. You then get all of the benefits that are listed directly below.

Bulletin "962" tells about the construction, the operation, and the effective performance of the Streamliner in plants like yours.

Maximum Capacity When Needed Most • Accurate Pressure Control Under Toughest Working Conditions • Trouble-Free Service • Smooth Operation • Tight Closure • Accurate Regulation • Speedier Production Results • Elimination of Failures • Constant Delivery Pressure • Cost Saving Operation • No Spoilage • Practically Zero in Maintenance Costs



CASH STANDARD CONTROLS VALVES

A. W. CASH COMPANY DECATUR, ILLINOIS

When inquiring specify CP 3070—see handy form pages 2-3

Briefs . . . from contemporary publications

Here's a quick look at interesting articles appearing in other publications

. . . as selected by Technical Editor, H. McCormack

Belt Conveyor Capacity Chart

The chart illustrated may be used to determine carrying capacities of belt conveyors. Belt widths range from 12 inches to 48 inches. Varying belt speeds. Shows capacities for sized and unsized material with certain stated limits as to maximum size. (From "Power Plant Engineering", August, 1947)

★

Treating Boiler Feed Water

A summary of German practice on this subject is contained in a 5 page article. Shows agreement with and departure from current United States practices.

Several novel items were noted as: use of ammonia and ammonium salts in feed water conditioning (author comments on when this may or may not be used). Comments are made on filling standby boilers with nitrogen to prevent corrosion. Illustrated with 9 figures and 2 tables. (From "Power", September, 1947)

★

Influence of Wastes on Treatment and Use of Water

A 6 page article points out the burden placed on water users by those industries discharging waste products into surface waters. Compares this with the sewage pollution load. Calls attention to the year by year increase in water treatment cost in regions where waste waters are prevalent.

Figures are presented as to cost of industrial waste pollution abatement and an attempt made to evaluate financially the benefits arising therefrom. Illustrated with 4 figures and 5 tables. (From "Chemical Engineering Progress", September, 1947)

★

Polyvinyl Carbazole Resin

An article of 5 pages including 9 graphs discusses the reactions involved in producing polyvinyl carbazole. Points out the effects of various materials on polymerization.

Various solvents are enumerated and impregnating methods given. Characteristics of impregnated materials as well as the polymer are graphed. Use of the material in compression molding is commented on. (From "Modern Plastics", September, 1947)

★

Vinyl Elastomers for Extrusion and Molding

Author presents a paper dealing with the vinyl chloride-acetate type of resins compounded particularly for extrusion and molding.

The most suitable plasticizers, stabilizers and lubricants are indicated.

Processing of the batch is described, followed by molding and extrusion techniques. Tests on finished products are included. Article consists of 2 pages including 4 figures. (From "India Rubber World", September, 1947)

Heat Transmission from Fine Wires to Water

An article of 6 pages, including 8 figures, 2 tables and a bibliography, describes the equipment used and the operating conditions in a series of experiments. The objective was to measure flow at low velocities by noting the heat abstracted from a hot wire by the fluid flowing over the wire.

Data secured in this work are compared with available equations. Heat losses are plotted, logarithmically, against temperature difference. Data tabulated both for constant and for variable velocities. (From "Industrial & Engineering Chemistry", Sept., 1947)

★

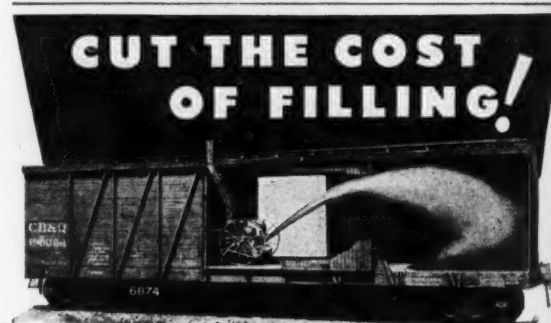
Stoker Has Traveling Grate, Spreader Feed

A 1 page article with 2 figures presents recently designed and installed stoker for coal fired boilers. Features pointed out are: ample air supply where needed at low velocity, combustion in three zones, hydraulic oil drive with low power demand. (From "Power Plant Engineering", August, 1947)

★

Agitators: Their Design and Performance

Impeller type, diameter, speed and theoretical power requirements of this equipment are discussed. Methods for

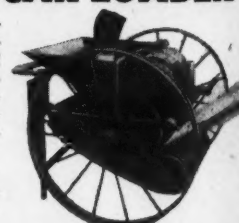


with an S-A BOX CAR LOADER

Load and trim box cars at a fraction of the cost of manual trimming . . . Save time and money!

One man, with part time attention to the S-A Loader, can handle up to 100 tons an hour—of any loose granular or small lump material up to 2' lump size.

Exposure of operator to dust is reduced to a minimum. Centrifugal action whirls material in a directed stream to any spot in the car.



Write for Bulletin No. 240 with complete details.

STEPHENS-ADAMSON MFG. CO.

TELLEVAL—Bin Level Controls
Car Loaders
Variable Speed Reducers

Car Pullers

SealMaster Ball Bearings
Winches
Saco Speed Reducers

11 RIDGEWAY AVE., AURORA, ILL.

When inquiring specify CP 3071—see handy form pages 2-3

CHEMICAL PROCESSING Preview

calculation are presented and the equation developed for power required.

4 pages show several examples to clarify methods of calculation. Various operating conditions are used in these examples. Includes 3 figures. (From "Chemical Engineering", September, 1947)

★

Table of Azeotropes and Nonazeotropes

An article of 75 pages lists 6045 elements and compounds, in binary systems, upon which azeotropis data are given.

17 pages are devoted to similar data for some 300 in the ternary systems. Includes a 1 page bibliography. (From "Analytical Chemistry", August, 1947)

★

Continuous Hydrolysis of Fats

A process, with the necessary equipment, for continuous hydrolysis of fatty oils is presented. Detailed operating conditions are stated. Numerous feed stocks were processed. Results from processing are tabulated.

Article consists of 8 pages including 5 figures, 3 tables and 2 sketches. High purity fatty acids and comparatively high concentration of glycerol were obtained. (From "Chemical Engineering Progress", September, 1947)

★

Power Absorption in Mixers

A 6 page article points out correlation with equipment dimensions and fluid properties. Discusses a pilot plant study made on two mixers, an arrowhead disperser and a spiral turbine. Liquids used in the study ranged in viscosity from 0.26 to 33.5 centipoises.

Correlation methods are given and charts are presented to show the correlation between the power factor and the Reynolds number. 12 figures and 4 tables illustrate the article. (From "Chemical Engineering Progress", September, 1947)

★

Ratio Flow and Metered Control in Chemical Processing

An 8 page article points out that pneumatic-operated systems for ratio flow and metered control have been widely accepted because of flexibility in application. 15 figures and a one page discussion illustrate the article which shows several examples of industrial uses. (From "Chemical Engineering Progress", September, 1947)

★

Safety Heads

A 3 page article including 7 figures sets forth the requirements, design and installation of safety heads for pressure and vacuum operated processing equipment.

Operating conditions requiring variations in installation are enumerated and the A.S.T.M. code is quoted. (From "Power Plant Engineering", August, 1947)

★

Compressor Capacity Determination

Author describes an arrangement of equipment and a procedure which may be used to determine the capacity of a compressor. Results obtained by such tests are tabulated. Another table compares results obtained by this method with those using a calorimeter. Savings are pointed out and results secured are accurate. Covers 3 pages with 6 figures and 2 tables. (From "Refrigerating Engineering", September, 1947)

NOVEMBER, 1947



The bean that did an about face

Until recently the soybean was the most stubborn bean ever to plague a laboratory.

Under precise laboratory conditions soybean oil proved to be rich in substances sorely needed by industry. But when it came to projecting these results in terms of large scale commercial operations, soybean oil simply refused to cooperate.

Ordinary refining methods were unable to isolate and separate many of the substances that science knew the soybean contained. Paint oil molecules clung to edible oil fractions, affecting the value of both. Oil fractions useful for plastics remained mixed with components sought by pharmaceutical and cosmetics industries.

And so it went—until M. W. Kellogg engineers developed the revolutionary new Solexol Process for refining vegetable, animal and marine oils according to molecular weight and structure.

Thanks to Solexol the unstable characteristics in soybean oil are now under control. High quality edible oils, paint oils, pigment lecithin and sterol concentrates can be produced from soybean oil—to exacting laboratory specifications—at the lowest refining cost in history!

Solexol's remarkable success in the processing of soybean oil is applicable to the refining of other non-mineral oils such as cottonseed oil, fish body and fish liver oils, fats and tallow. Production data on a wide range of prod-

ucts may be had by writing Glyceride Processes Division, The M. W. Kellogg Co., 225 Broadway, N. Y. 7, N. Y.

SOLEXOL

Decolorizes, separates, extracts, concentrates and denaturizes

VEGETABLE OILS		
Soybean	Peanut	Cottonseed
Linseed	Tall	Other similar types

ANIMAL PRODUCTS		
Tallow	Waxes	Greses

MARINE OILS

Fish body oils and liver oils having widely different physical, chemical and vitamin-potency characteristics.

FATTY ACIDS From all sources

Licensed jointly by The M. W. Kellogg Co. and The Chemical Foundation, Inc.

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Engineers and Economists to International Industry

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When inquiring specify CP 3072 . . . see information request blank, pgs. 2-3

**FOR CONTINUOUS
AUTOMATIC PROPORTIONING
with**

*Maximum
Accuracy*



**The
Askania Ratio Regulator**

A simple, accurate way of mixing two or more liquids or gases to a predetermined ratio. Ratio can be changed easily without interruption of the process.

The Askania Ratio Regulator has only a few moving parts reducing maintenance to a minimum.

Low pressure systems use Fiberglass Diaphragms, measuring changes in conditions as small as .0025" W. C.

Turn down range of 10 to 1, with accuracy across full range.

For control of fuel/air mixtures, for mixing propane-butane and natural gas, for processing change from batch to continuous mixing... for proportioning two or more gases, liquids, or gases with liquids... use the Askania Ratio Regulator.

For detailed data get Technical Bulletin No. 101.

ASKANIA Controls

ASKANIA REGULATOR CO.

A Subsidiary of General Precision Equipment Corporation
242 EAST ONTARIO STREET, CHICAGO 11, ILLINOIS
Export Office for Latin America: 44 Whitehall Street, New York, N.Y.

When inquiring specify CP 3073 — see handy form pages 2-3

Process Instrumentation

**Pneumatic Control Provides Fast
Action and Flexibility**

Control can be supplied for temperature, pH, gas analysis, and electrolytic conductivity applications

USES — This pneumatic control can be used in chemical processing operations to control temperature, using thermocouples, radiation-type detectors, or resistance thermometers — pH, gas analysis (per cent SO₂ etc.), and electrolytic conductivity.

FEATURES — Rugged, machine-like construction and heavy-duty parts throughout.

Has faster acting, more flexible operation, and is more compact, than previous models. Handles process upsets, returning temperature (or other condition) to the control point in a short time.

DESCRIPTION — A wide selection of instruments is available... a round-chart controller where an extra-visible scale is required; or a strip-chart model where a detailed record on a wide chart is needed.

For each of these models, the type of instrument can be chosen which best fits the process; one for most processes and the other for those temperature-control applications, which need unusual speed, extra sensitivity or adaptability to short ranges. Any type of control may be selected from simple proportioning to complete control with automatic droop-correction (reset) and rate action.

LEEDS & NORTHRUP COMPANY, Dept. CP, 4934 Stenton Ave., Philadelphia 44, Pa.

When inquiring specify CP 3074 — see handy form pages 2-3



Model R pneumatic controller

**Polarograph Embodies New
Feature of Construction
and Design**

USES — Instrument may be used in a wide variety of polarographic studies in the processing field.

FEATURES — A twenty-step integrally variable sensitivity control makes possible more positive sensitivity reproduction.

DESCRIPTION — Employs an R. C. filter type damping control, for placing a capacitance in parallel with the measuring resistor at high sensitivity settings and

an additional series resistor and parallel capacitance at low sensitivity settings.

Bridge is completely enclosed and the unitized panel construction of the polarograph circuit permits it to be removed in one piece from the instrument case for servicing.

Switching arrangement allows the initial potential to be applied either in the same direction as the span potential or counter to it. Instrument is slightly smaller than the previous model XX. New model is designated as model XXI.

E. H. SARGENT & CO., Dept. CP, 155-165 E. Superior St., Chicago 11, Ill.

When inquiring specify CP 3075 — see handy form pages 2-3

★

**Strip Chart Recorder Uses no
Relays or Converters**

*Operates on 115 or 230 volts, 25, 50 or 60 cycles.
and available in a wide number of models*

USES — Strip chart recorder described as an "Electronic Scriber" is designed for the measurement, indication, control and permanent record of variables in the process industries.

Now...

**DIRECT READINGS
of dew point
without
lifting a finger**

**THE NEW
Foxboro Dew Point Recording System**

● Here is a newly-developed instrument especially suitable for moisture measurement or control in cabinets, dryers, dehydrators, air conditioning and similar equipment. It gives direct recordings of dew point from -20°F. to +180°F. at working temperatures from -20°F. to +200°F. Also permits readings in absolute or relative humidity when dry bulb temperature is known.

This new system is the only one of its kind. Requires no water connections or high velocity air-flow. Employs unique Dewcel bulb that neither adds nor removes atmospheric moisture, and can be installed directly in ducts or cabinets. Investigate Foxboro Dew Point Systems for your purposes. Write The Foxboro Company, 190 Neponset Ave., Foxboro, Mass., U.S.A.

FOXBORO

**HUMIDITY
INSTRUMENTS**

When inquiring specify CP 3076 — see handy form pages 2-3

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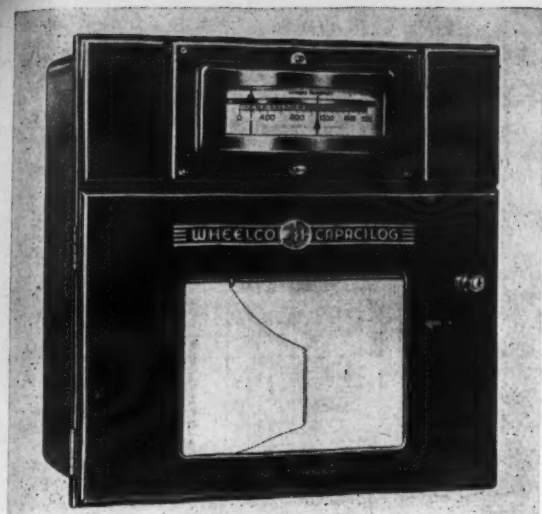
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Strip chart recorder, Capacilog

FEATURES — Simplicity of operation without amplification, physical contact or disturbance in the measuring circuit (no relays or converters) results in accurate and instantaneous response. Design provides for a minimum of moving parts and front-accessibility throughout results in ease of service and maintenance.

DESCRIPTION — Employs the electronic principle used in the company's Capacitrol pyrometer controller. In the new instrument the recording function is added, with a positive power driven pen to the electronic link between measurement and control for deflection and null method types of measuring systems.

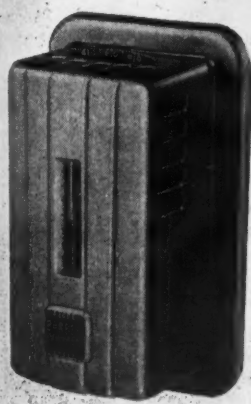
WHEELCO INSTRUMENTS COMPANY, Dept. CP, 847 W. Harrison St., Chicago 7, Ill.

When inquiring specify CP 3077 — see handy form pages 2-3

*

Thermostat Handles Heating and Cooling Applications

Contact rating 10 amperes at 115 volts, 5 amperes at 230 volts-non-inductive load



Line voltage unit heater thermostat

1½ inches, normal duty ¼ H P at 115/230 V. AC.
BARBER-COLMAN COMPANY, Dept. CP, Rockford, Ill.

When inquiring specify CP 3078 — see handy form pages 2-3

NOVEMBER, 1947

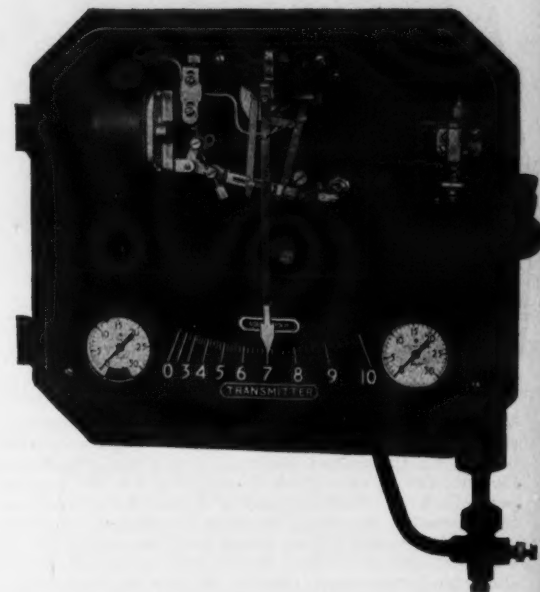
Something New in Pneumatic Transmission!

The last word in . . .

SIMPLICITY

STABILITY

EASY ADJUSTMENT

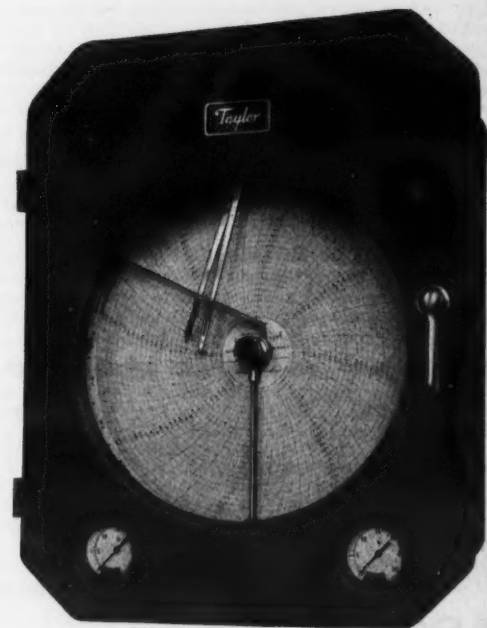


IT'S the new Taylor 226R Pneumatic Transmitter! Helps keep every process in your plant right under your fingertips. It's accurate within 1/2 of 1% scale range, and it works as simply as this: each transmitter connects by a pneumatic lead line to a recording receiver or Fulscope Recording Controller (left) on the central control panel. You don't have to walk a step farther than that to check chart records or indications. And you have constant remote control of temperature, pressure, rate of flow and liquid level.

Available with all forms of actuation for single or double duty, indicating or recording, or as single duty transmitter-controllers with any of 5 standard types of Fulscope Control.

226R's are adjusted by the simple expedient of two micrometer screws—one for range and the other for zero setting. And they hold their calibration faithfully between adjustments. Years of tough, dependable service are built into each instrument.

Ask your Taylor Field Engineer! Ask him about "Transet" too. It's our new transmission system that eliminates time lag and cuts panel space to 1/3. Write for Bulletin 98156. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Ontario. Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.



TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

When inquiring specify CP 3079 . . . see information request blank, pgs. 2-3

POLAROGRAPH

SARGENT-HEYROVSKÝ
MODEL XII



Visual deflection and photographic recording for current—permits operator to see actual image of galvanometer deflection on translucent scale as it is being recorded—150 mm current axis—current sensitivity 4×10^{-9} ampere per millimeter (allowing analysis of solutions as dilute as 10^{-6} normal)—sensitivity control is supplied by panel mounted precision Ayrton shunt with ratios from 1/1 to 1/1000—output circuit is equipped with optional Hoekstra shunt connection which provides for plus or minus polarization of the cathode to be represented by voltage axis of single uni-directional record—provision for instant manual adjustment of record position and applied voltage—actual applied voltage readily determinable at all times by multiplying volt meter reading by indicated graduations on camera scale ring—recording system is driven by constant speed motor—all scales and windows are actinic filters and the camera is a "light tight" unit that may be removed from the instrument outside the dark room.

MULTI-CURVE RECORDING—ten position scale ring of camera cylinder permits adjustment of the starting position so that numerous curves can be plotted on a single recording sheet without removing it from the instrument.

SIMPLE DEVELOPING PROCEDURE—low sensitive bromide paper $6" \times 10"$ is used in the camera—no need to meet time temperature and light requirements of ordinary photographic development—no film is used—no printing to be done—minimum dark room requirements.

LIGHT WEIGHT—SMALL SPACE REQUIREMENT—Model XII Polarograph weighs approximately 65 lbs. net—the dimensions are $13\frac{1}{4}" \times 13\frac{1}{2}" \times 12\frac{1}{2}"$, requiring only very small space in the laboratory.

S-29301—Polarograph, Heyrovsky, American model XII Indicating-recording, complete with 3 vessels S-29305 30 mm; 1 electrode S-29340. 21 cm capillary tubing, S-29350 3 stoppers for vessels, 4 packages bromide paper S-29347 3 feet neoprene tubing $\frac{3}{16}$ inch, mercury reservoir 125 ml S-44345 and connecting wires. For operation from 115 volt A.C. 60 cycle circuit. **\$550.00**

SARGENT

SCIENTIFIC LABORATORY EQUIPMENT AND CHEMICALS
E. H. SARGENT & COMPANY, 135-145 EAST SUPERIOR ST. • CHICAGO 11, ILL.
MICHIGAN DIVISION 1959 EAST JEFFERSON • DETROIT, MICHIGAN

When inquiring specify CP 3080—see handy form pages 2-3

Process Instrumentation

Timer Controls Operations of Processing Equipment

Standard dials have time intervals of 5, 30, 60 minutes and 5 and 10 hours

USES—Unit may be used for the control of processing operations such as cooking, batch mixing, baking, drying, and extracting. For any application requiring an electrically operated device which turns on manually, runs a preset time and automatically stops.

FEATURES—Accurate timing and dependable operation are assured by the electric motor having a totally enclosed gear train and sealed-in lubrication. No springs or escapements. Large pointer permits simple setting and can be turned in either direction to required setting without damaging timer.

DESCRIPTION—Available in five standard time scales: 5, 30, 60 minutes and 5 and 10 hours. Four types with various circuit arrangements. Type 2 has single pole double throw contact. Load 1 is normally on. When pointer is turned away from "on" position load 1 is turned off and contact 2 closes. Type 1 same as Type 2 with contact 1 omitted.

Type 4 has a hold feature using additional contact for timer motor. When pointer is at "O" only contact 1 is closed. When pointer is turned to "Hold" only contact 2 is closed. When pointer is turned to any point on timing scale, contact 2 and motor are closed. Type 3 same as Type 4 with contact 1 omitted.

Contacts are rated as follows: 110 volts, 15 amps. contact 2 N. O., 5 amps. contact 1 N. C., 220 volts, 10 amps. contact 2 N. O., $2\frac{1}{2}$ amps. contact 1 N. C.

Available for 110 and 220 volts for 60, 50 and 25 cycles. Described in bulletin 315.

EAGLE SIGNAL CORPORATION, Dept. CP, Moline, Ill.

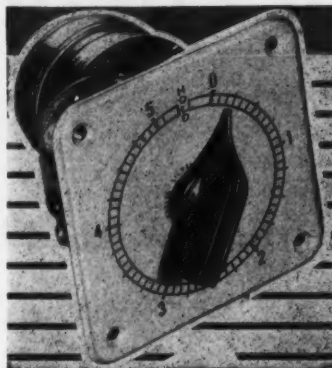
When inquiring specify CP 3081—see handy form pages 2-3

★


Slide Rule Speeds Orifice and Flow Calculations

Gives results in 2 minutes as compared to ordinary procedure requiring about 20 to 45 minutes

USES—This specially designed 12" slide rule may be used to compute orifice plate bores, flow nozzles or Venturi throats, and also the rate of flow, or the differential created across the orifice plate (whether flange tapped or full flow tapped) or other primary device. It can be used for all fluids, with or without seals, and covers a wide range of flows and line sizes which permits its use for most commercial problems. Although its average error is well within the accuracy of flow



Manuflex timer

SEE  THEMOMETERS MADE

*a quick trip . . .
via penny post-card.*

No matter where you are . . .
New York or Kokomo . . . San
Francisco or Salem . . . you can
tour the modern Palmer Ther-
mometer plant for the cost of a
penny postcard . . . spend five
minutes or a half-hour.



Through the colorful pages of a new fully illustrated brochure, get a first hand story of the manufacture of quality thermometers. Observe the fascinating art of making glass tubing and other operations to final inspection and shipment of finished products. You'll see the painstaking care, never-ending testing and research which result in Palmer leadership . . . the finest in temperature indicating and recording instruments.

The latch string is out . . . send for "The Story of Palmer Thermometers" . . . yours for the asking!

Mfrs. of Industrial, Laboratory, Re-
cording and Dial Thermometers
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Cincinnati 12, O.
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King & George Sts., Toronto 2



When inquiring specify CP 3082—see handy form pages 2-3

How Specialized Testing Equipment Cuts Production Costs



Spectrophotometer
Pays for Itself
in One Project

Ten years ago the Harshaw Chemical Company developed a new opacifier, Uverite, to replace tin oxide. On this project, a G-E recording spectrophotometer more than paid for itself. But the important news is this: Harshaw's chemists say it has been paying for itself repeatedly since then by giving quick, permanent results for color analysis, comparison work, etc. Write for Bulletin GEA-3680A. Apparatus Department, General Electric Company, Schenectady 5, N. Y.

800-973

GENERAL  ELECTRIC

When inquiring specify CP 3083—see handy form pages 2-3

CHEMICAL PROCESSING Preview

NOW-
IMMEDIATE
DELIVERY!
...on these
Bristol
instruments:

Bristol Recording and
Controlling Instruments



- Temperature Controllers (Thermometer — Pyrometer)
- Recording and Indicating Pyrometers
- Air-Operated Thermometer Controllers
- pH Recorders and Controllers
- Recording Ammeters and Voltmeters
- Pyrometer Controllers (Electric & Air-Operated)
- Recording Gauges
- Recording Thermometers
- Running-Time Recorders

Write for Stock Instrument Bulletin No. 1811.

THE BRISTOL COMPANY
141 Bristol Road, Waterbury 91, Connecticut

When inquiring specify CP 3084 — see handy form pages 2-3



EQUIP IT TO
"GROW GRACEFULLY"
ON KEWAUNEE'S
"UNIT ASSEMBLY PLAN"

Experiment
in YOUR LABORATORY NOT with IT!

Take the "experiment" out of laboratory planning by installing Keweenaw Laboratory Furniture, Cabinets and Casework. Simply select the units you need—all match exactly and are interchangeable, permitting your laboratory to "grow gracefully." Made of finest materials . . . all working surfaces of KemROCK for resistance to acids, alkalis, abrasion and shock. Modernize efficiently—the Keweenaw way. For details—

WRITE: INDUSTRIAL DIVISION

Keweenaw Mfg. Co.

C. G. Campbell, President

8011 S. Center St., Adrian, Mich. • Representatives in Principal Cities

When inquiring specify CP 3085 — see handy form pages 2-3

NOVEMBER, 1947

Process Instrumentation

test data, it is not intended to replace computation methods where purchase and sale of fluids are involved. It will, however, be found to be invaluable for checking such calculations.

FEATURES — Cost of the rule may easily be saved, many times over, where the correct determination of line size or flow rate is important. Rule gives results in 2 minutes, which by ordinary procedure would require from 20 to 45 minutes, involving the use of curves, tables and calculating machine. Accuracy of the rule is closer than can be read without a magnifying glass.

DESCRIPTION — Necessary instructions are included on the back of the rule. Reversible slide has scales for gas on one side and liquids and steam on the other. Colors are used to distinguish the scales. Other color bands are shown, with tick marks indicating the I. D. of Schedule 30, 40, 80 and 120 pipe.

Made of moisture-proof plastic, thus eliminating need for adjustment of clearance or alignment. Scales line up without parallax, and are on a white vinylite with a clear plastic covering which protects scale markings. Provided with a leather case and equipped with a plastic window.

THE FOXBORO COMPANY, Dept. CP, Book Department, Foxboro, Mass.

When inquiring specify CP 3086 — see handy form pages 2-3

★

Beta-Gamma Count Rate Meter Is Portable

*Has three ranges 0.2, 2, and 20 milli-roentgens
per hour full scale*



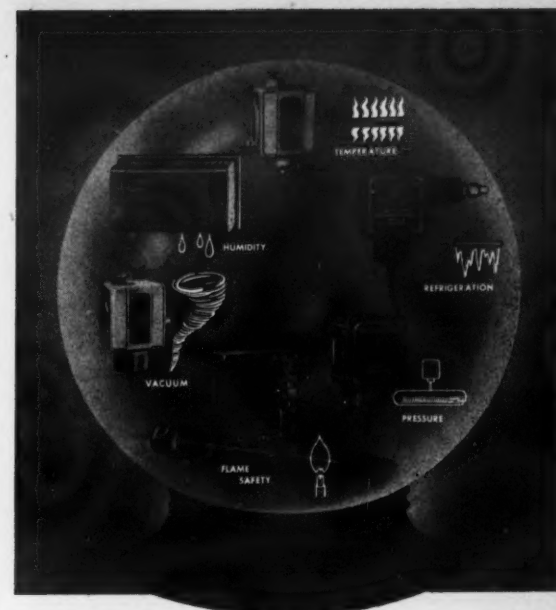
Portable radioactivity meter

Electronic count rate circuit uses two hearing aid-type tubes and is completely battery operated. A visual reading of the amount of radiation present is given by meter, and earphones are provided for an oral indication. Battery life, based on an average operating period of four hours per day, is about 350 hours.

This meter has a detachable, chrome-plated probe which is mounted in a clip on the front of the instrument. An adjustable shield can be set to prevent the detection of beta particles, so that the user can distinguish between beta and other radiation. Small size 11" x 4" x 6", weight 9½ lbs.

INSTRUMENT DEVELOPMENT LABORATORIES, Dept. CP, 223-233 W. Erie St., Chicago 10, Ill.

When inquiring specify CP 3087 — see handy form pages 2-3



Will Your Future Products present these control problems?

When you are thinking of future products (or improving your present ones), don't overlook the help of Brown-Honeywell engineers at the planning stage. Quite often their suggestions will mean better operation and control at lower cost.

For example, a Brown-Honeywell engineer was called in by a manufacturer who was designing a restaurant type waffle iron. The Brown Engineer was able to suggest a slight change which provided better utilization and control of heat and the elimination of a future trouble spot.

For the Product Design Engineer, the Brown-Honeywell organization provides the largest and most varied line of control devices — for temperature, pressure, vacuum, humidity, flame safety and many other variables. They are furnished with either electric (mercury switch) or air-operated control action.

As an integral part of your products, these control devices provide the two essential considerations — *dependability and low cost*. Catalog 8302 describes many of these control devices. A copy will be sent to you without obligation.

The Brown Instrument Company,

4421 Wayne Ave.

Philadelphia 44, Pa.

DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR CO.

SUBSIDIARY COMPANIES IN TORONTO • MEXICO CITY • LONDON • STOCKHOLM • AMSTERDAM • BRUSSELS

BROWN Honeywell CONTROLS

FOR PROCESS MACHINES AND EQUIPMENT

When inquiring specify CP 3088 — see handy form pages 2-3

IF YOU WANT

ELECTRONIC HEAT CONTROL...

SEND FOR
THIS BOOK



Here's the story of the simplified, moderately priced Alnor Electronic Pyrometer Controller. This bulletin describes several of the many advantages in automatically controlling or maintaining heat in industrial furnaces, ovens and kilns—in fact, in all heating devices using electricity, gas or oil. The Alnor Controller is made by instrument technicians, is sensitive enough for laboratory use, rugged enough for grueling industrial service. Today, while you are thinking of it, send for Bulletin No. 3197-C. ILLINOIS TESTING LABORATORIES, INC., Room 504, 420 N. La Salle Street, Chicago 10, Illinois.

Alnor

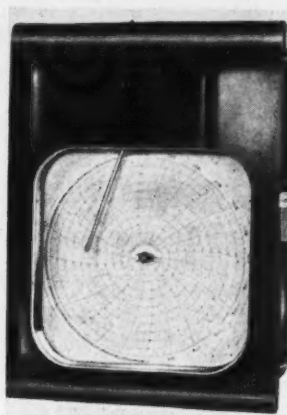
PRECISION INSTRUMENTS
FOR EVERY INDUSTRY

When inquiring specify CP 3089—see handy form pages 2-3

Process Instrumentation

Recording Thermometers and Gauges Have Convertible Feature

Series 500 instruments are furnished in 8-inch and 12-inch sizes in a wide variety of ranges



Series 500 recorder

USES — This newly designed line of recording thermometers and gauges may be used for a wide variety of temperature and pressure applications in the processing field.

FEATURES — Design improvements make these instruments easier to use, more convenient to service, and readily convertible from one type to another. Wherever possible the construction has been simplified.

DESCRIPTION — Case is designed so it can be mounted either on a wall, front of panel, or flush

on a panel and can be easily converted by the user at any time from one type of mounting to another. Case has a

Pneumatic Transmitters

FOR MEASURING FLOW AND LEVEL

Operating On The Force-Balance Principle

Republic pneumatic transmitters (force-balance type) permit the centralization of process records without the necessity of running lead lines containing poisonous or explosive products into control rooms. By eliminating long lead lines, the consequent troubles due to vaporization or freezing are also eliminated. The Republic transmitter is located close to the point of measurement and the value transmitted pneumatically to some distant point where it can be either indicated, recorded or controlled.



Typical installation for measuring flow

measurement of viscous or vaporous liquids which will either congeal or vaporize in lead lines exposed to atmospheric temperature.

LEVEL

There are three types of pneumatic transmitters by which liquid level measurement and control, in either open or closed vessels, may be secured.

1. The differential pressure type, in which the level is measured between the liquid level and a known reference level.

2. The buoyancy type, in which the buoyant force exerted by the liquid against a displacer tube is measured.

3. The weigh tube type, in which the weight of the liquid in a tube is measured.

FLOW

Republic pneumatic transmitters are particularly adaptable to the flow measurement and control of steam, water, gas, air or oil at static pressures up to 600 lb. per sq. in. They are built to operate on differentials as low as 0.9 in. of water and as high as 800 in. of water.

Pneumatic transmitters are also provided for the flow

Write For BULLETIN NO. 1000

REPUBLIC FLOW METERS CO.

2245 Diversey Parkway • Chicago 47, Illinois

When inquiring specify CP 3091—see handy form pages 2-3

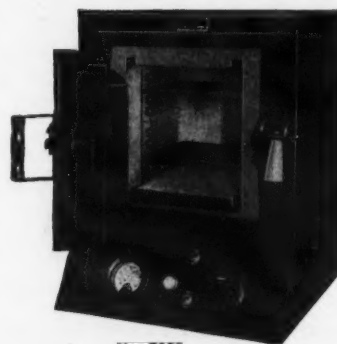
Hotpack

ELECTRIC FURNACES

Controlled Heat to 1050° C. — Built-in Controller and Indicating Pyrometer — Low Initial Cost — Economical Operation

This compact, clean heavy-duty furnace meets the need for an inexpensive, economical unit for all laboratory operations such as drying of precipitates, ash determination, fusions, ignitions, etc. The maximum safe working temperature is 1000° C. (1832° F.). For intermittent periods of short duration the furnaces may be operated at a maximum temperature of 1050° C. (1932° F.).

A built-in input controller, mounted in the panel board, holds the temperature at any point desired, within 25° of the setting. The controller has a ready reference dial, which indicates the time cycle per minute of off and on operation. Once set the unit will continue to operate at any desired setting.



No. 7053

Model	Interior Size W. D. H.	Exterior Size W. D. H.	Current Characteristics	Amp.	Shipping Weight	Price F.O.B. Phila.
7051	5" x 5 1/2" x 6"	16" x 16" x 16"	110 V-AC	14	85 lbs.	102.50
7052	12" x 12" x 10"	22" x 22" x 24"	220 V-AC	23	350 lbs.	222.50
7053	7 1/2" x 8" x 10"	18" x 20" x 24"	110 V-AC 220 V-AC	28 14	225 lbs.	166.00

Send for complete catalog

THE ELECTRIC Hotpack COMPANY, INC.
COTTMAN AVE. AT MELROSE ST. PHILADELPHIA 35, PENNSYLVANIA

When inquiring specify CP 3090 . . . see information request blank, pgs. 2-3



AN UNFAILING ADVANTAGE

All Mercoide Controls are equipped exclusively with hermetically sealed mercury switches of special design and critically selected materials. Mercoide mercury switches are known the world over for their dependable service. They are not affected by dust, dirt or corrosion; nor are they subject to open arcing with its attendant consequences of pitting, sticking or oxidized contact surfaces, all of which, are likely to interfere with normal switch operation. That is why among other things, Mercoide Controls on the whole give you assurance of better control performance and longer control life—a distinct and unfailing advantage—the reason why they are also the choice of America's leading engineers for many important wartime industrial applications.

MERCROID CONTROLS
FOR HEATING, AIR CONDITIONING, REFRIGERATION, AND VARIOUS INDUSTRIAL APPLICATIONS
THE MERCROID CORPORATION, 1400 W. BEAUMONT AVENUE, CHICAGO 40, ILL.

When inquiring specify CP 3092—see handy form pages 2-3

CHEMICAL PROCESSING Preview

CAMBRIDGE GAS ANALYZERS

The Cambridge Recording Gas Analyzer continuously analyzes and records as many as six constituents of a gas. Eliminates intermittent, slow and expensive manual gas analysis. Accurate . . . Sensitive . . . Simple. No moving parts; utilizes thermal conductivity principle.

Makes possible substantial savings in the operation of kilns, production of inert gases, and in metallurgical, petroleum, and other chemical processes. Single- and Multi-point instruments are available for a wide variety of applications.

Send for literature;
please mention application

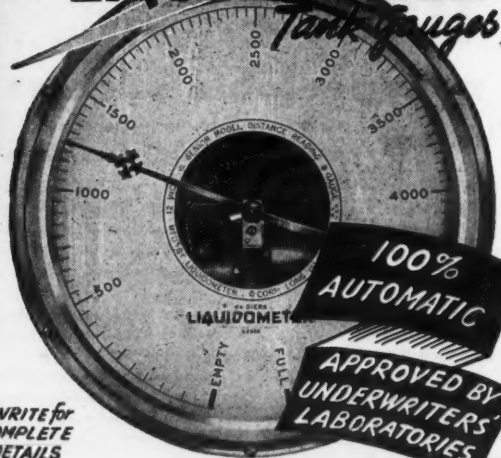
CAMBRIDGE
INSTRUMENT COMPANY, INC.

3706 Grand Central Terminal, New York 17
Pioneer Manufacturers of

PRECISION INSTRUMENTS

When inquiring specify CP 3093 — see handy form pages 2-3

**AS QUICK AS A FLASH YOU CAN
KNOW THE EXACT MEASUREMENT
OF YOUR VALUABLE STORED LIQUIDS
With LIQUIDOMETER**



WRITE FOR
COMPLETE
DETAILS

"LIQUIDS WORTH STORING ARE WORTH MEASURING"

THE LIQUIDOMETER CORP.
38-18 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

When inquiring specify CP 3094 — see handy form pages 2-3

NOVEMBER, 1947

Process Instrumentation

heavy inlaid sponge-rubber door gasket, flush roll-type door handle, and non-projecting door hinges.

Mounting block, which holds the external connections to the instrument, is removable. It can be mounted either on the bottom or back of the case and can be changed at the discretion of the user from bottom to back of the case or vice versa and is designed for easy removal of the measuring element system.

Pen arms are pivoted on stainless steel journals with the pen arm shaft supported at both ends in a rigid one-piece mounting. Journals are ground and polished to provide low-friction action. Link members between the measuring element and pen-arm mechanism are readily removable without tools and can be equipped with over-range and under-range two-way springs when required. Improvements have been made in the measuring element to improve its accuracy and the ease with which it can be adjusted.

Series 500 recording thermometers and gauges are furnished in 8-inch and 12-inch sizes in a wide variety of ranges.

THE BRISTOL COMPANY, Dept. CP, Waterbury, Conn.

When inquiring specify CP 3095 — see handy form pages 2-3

★

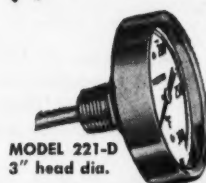
Bulldozers Have 13' 4" or 12' 8" Angling Blades

Cable-controlled, angling blade bulldozer for use with manufacturer's diesel track-type tractors are specified, with performance data, job scenes, in Form 10231.

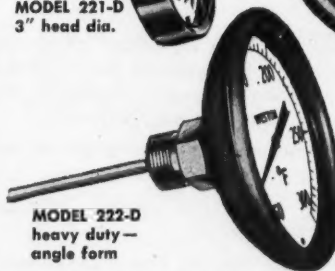
CATERPILLAR TRACTOR CO., Dept. CP, Peoria 8, Ill.

When inquiring specify CP 3096 — see handy form pages 2-3

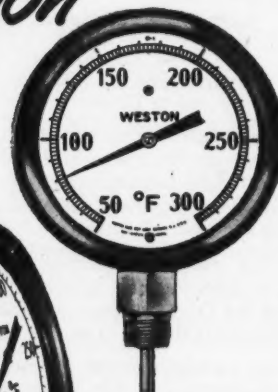
it's Weston



MODEL 221-D
3" head dia.



MODEL 222-D
heavy duty—
angle form



MODEL 122-D
heavy duty—
straight form

IN TEMPERATURE MEASUREMENT, TOO!

In temperature measurement, too, WESTON leads the way! The sturdy, all-metal construction of these WESTON thermometers, plus their simplicity of design, materially reduces thermometer breakage and maintenance, and safeguards their high initial accuracy over long periods of time. Available in sizes, types and stem lengths for most applications. Weston Electrical Instrument Corp., 618 Frelinghuysen Ave., Newark 5, N.J.

When inquiring specify CP 3097 — see handy form pages 2-3

LABORATORY STIRRERS

with COMPLETE Speed Control

MODEL 7605

\$17.25



- Rheostat speed control to 5,000 R.P.M.
- Standard motor, continuous duty.
- Plenty of power — .01 H.P.
- Stainless steel mounting rod.
- Can be clamped to any standard laboratory support.
- Rugged chuck for 1/4" rod.
- Operates on 110 volts AC or DC.

This is just ONE of our complete line of high quality laboratory stirrers — of all kinds, for all purposes. Tell us your needs. We will be glad to advise you.

WRITE FOR DESCRIPTIVE BULLETIN 3404-W.

Apparatus to meet ASTM, AOAC, API, etc. specifications. Complete stock of laboratory reagents.

Pyrex Glassware
Kimble Glassware
Water Testing Equipment
Analytical Balances and Weights
Hot Plates and Heaters
Filter Paper
Laboratory Furnaces
pH Equipment
Vacuum Pumps
Thermometers and Hydrometers
Ovens and Sterilizers
Water Baths
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Water Still
Centrifuges
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Chemical Books

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New York Chemical Show — Booth 642.

PAIO-MYERS INC.
81 READE STREET · NEW YORK 7, N.Y.

When inquiring specify CP 3098 — see handy form pages 2-3

MAYBE YOU'RE NOT INTERESTED IN PINEAPPLE JUICE



...but

you may have the same problems of contamination, corrosion, suspended solids and mechanical remote control which prompted the engineers of The Dorr Company to select Grinnell-Saunders Diaphragm Valves for the Dorrco De-Ionization System for the new plant of the Hawaiian Pineapple Co. in Honolulu.

GRINNELL-SAUNDERS DIAPHRAGM VALVES

ISOLATED WORKING PARTS

The flexible diaphragm isolates working parts of the valve from the fluid, preventing contamination or corrosion.

CORROSION-PROOF LININGS

A selection of diaphragm materials and also body linings of glass, porcelain, lead, rubber or synthetics to suit service requirements.

STREAMLINED FLOW... POSITIVE CLOSURE

Streamlined passage without pockets minimizes friction. Large area of contact of the diaphragm, plus diaphragm resilience, permit positive closure even when solids are trapped.

Write for catalog—
Grinnell-Saunders
Diaphragm Valves

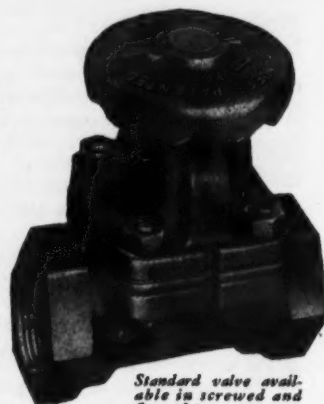
GRINNELL COMPANY, INC.

Executive Offices:
Providence 1, R. I.

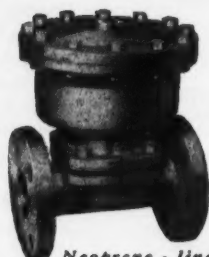
Branch Warehouses
in principal cities.

GRINNELL

WHENEVER PIPING IS INVOLVED



Standard valve available in screwed and flanged types.



Neoprene-lined, piston-operated valve for mechanical remote control.

Objective Lens Assembly Doubles Size of Optical Pyrometer Image

Handy for use with small area objects; lenses easily interchangeable

Doubling the size of the image seen in an optical pyrometer is an advantage available in the standard Leeds and Northrup instrument simply by using a new objective lens assembly.

This increased size is particularly useful in measuring the temperature of thin or small area objects. It makes the brightness match between the hot objects and the optical's "disappearing filament" considerably easier to obtain, in cases where the target would otherwise appear almost as small as the filament.

Typical applications where the larger image is handy in open hearth shops are in measuring tapping temperatures by sighting at the darker streak at the center of the tapping stream, and in reading temperature during spoon tests by sighting at the narrow ribbon of metal pouring from the spoon. Lenses are easily interchangeable. (Leeds & Northrup Co., 4934 Stenton Ave., Philadelphia 44, Pa.)

*

Ion Exchange Purification of Beet Sugar Increases Yield

Liquid sugars and edible syrups produced directly from both beet juice and final discard molasses

By Dr. FRANK N. RAWLINGS
Director of Research — The Amalgamated Sugar Co.
As told to PROF. H. McCORMACK, Technical Editor

Preliminary work on ion exchange purification of beet sugar products was initiated in 1939 and culminated in full scale factory operation of the Twin Falls, Idaho plant of The Amalgamated Sugar Company in January, 1947.

This was accomplished by the cooperative efforts of the chemists and engineers of Amalgamated and engineers of the Dorr Company, with ion exchangers supplied by the Chemical Process Company, San Francisco, California.

Ion exchangers may be located at various stages in the process: —

(A) The diffusion juice, after cooling, may be passed to the ion exchangers.

(B) The diffusion juice may be limed, carbonated, filtered, then, after cooling, run through the ion exchanger.

Either method supplies satisfactory juice purification. The method chosen for final operation will be determined by the economic balance for which there is yet insufficient data.

The ion exchange resins are granular with a particle size between 14 — 65 mesh. The exchanger cells are eight in number, 12 ft. diam x 5 ft. depth of bed; four are anion exchangers, four are cation exchangers. Only one of each set is "on stream" at a time; the others are

Ideas

in various stages of regeneration or in standby condition. Sugar liquor flows downward through the cells. The active life of the cell is told by the recording conductivity and pH meters. At certain predetermined values the cell requires regeneration. Regeneration consists in first removing from the cell the sugar liquor therein contained and displacing it with water.

The contents of the cell are then backwashed with water to loosen the bed and to remove any precipitated material. The water level is then adjusted just above the bed level. The acid or the alkali regenerated is then passed in downflow through the bed to perform the actual regeneration. This is followed by a water wash and the cell is ready to repeat the cycle. It can be seen that a complex header, with header valves, is required.

Pipe and valve sizes are four and six inches. The changer cells, the regenerating acid tanks and intermediate piping are rubber or Tygon lined.

Valves are Hills-McCanna rubber-lined diaphragm, operated with Westinghouse air brake operators.

All valve positions are controlled remotely from a panel board where automatic sequence selectors position the valves for the desired operation in the cycle.

The flow of solution is under pressure, may be up to 30 psi but normally about 14 psi.

GREAT IDEA

new peelable stickers

to carry { INSTRUCTIONS WARNINGS
SALES FEATURES TRADE-MARKS

Manufacturers everywhere are switching to Kum-Kleen Self-Adhesive Labels. Here's why: *They're new, different, far more efficient.* Adhere firmly to any smooth surface—metal, plastic, glass, wood, painted or varnished.

Won't dry out, curl, pop or fall off—yet peel off easily in one piece without leaving a trace.

Now—place instructions, warnings, trade-marks, describe finishes and point out features directly on the product at the exact place such data should be carried.

And when they've served their purpose, Kum-Kleen Stickers peel off without scraping—a feature your customers appreciate.

Kum-Kleens are quickly applied *without moistening*—are available in any size, shape or color, printed to your specifications. Write today for free samples to Dept. CP-11.



AVERY ADHESIVE LABEL CORP., 36 West Union Street, Pasadena 1, California; 41 Park Row, New York 7; 608 S. Dearborn St., Chicago, 5, Illinois and principal cities. In Canada, Enterprise Sales, Toronto.

When inquiring specify CP 3100 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

When inquiring specify CP 3099 — see handy form pages 2-3

The results attained during the two methods of operation are shown in Tables I and II.

TABLE I

A. Cooled, unlimed beet juice

	Before Ion	After Ion
Exchange Treatment	Exchange Treatment	
Apparent purity	87.6	98.1
True purity	83.20	97.2
Ash	0.27	0.026
Nitrogen	0.61	0.14
Invert	1.66	1.85

TABLE II

B. Normally carbonated and cooled beet juice

	Before Ion	After Ion
Exchange Treatment	Exchange Treatment	
Apparent Purity	91.0	98.55
True Purity	88.97	96.1

The success or failure of the treatment can be measured in the rise in the purities of the juices and the low figures for inversion during the operations.

The advantages derived from this ion exchanger treatment: Higher sugar yields per ton of beets, improved product quality, elimination of some reboiling of intermediate sugars, resulting in fuel economies. Fuel economies also result from non-scaling of evaporator tubes and pans. It has been possible to directly produce liquid sugars and edible syrups both from beet juice and final discard molasses. The first of these products is now being offered on the market.

★

Mixtures of Chlorine and Chlorine Compounds In Water Analyzed Speedily

Method consists of four amperometric titrations with sodium arsenate

Valuable assistance in water treatment control is provided in a procedure which makes it possible to determine quantitatively the amount of free chlorine, chloramine, chlorine dioxide and sodium chlorite in water containing a mixture of these constituents. This was described at a meeting of the Water, Sewage and Sanitation Section of the American Chemical Society in September.

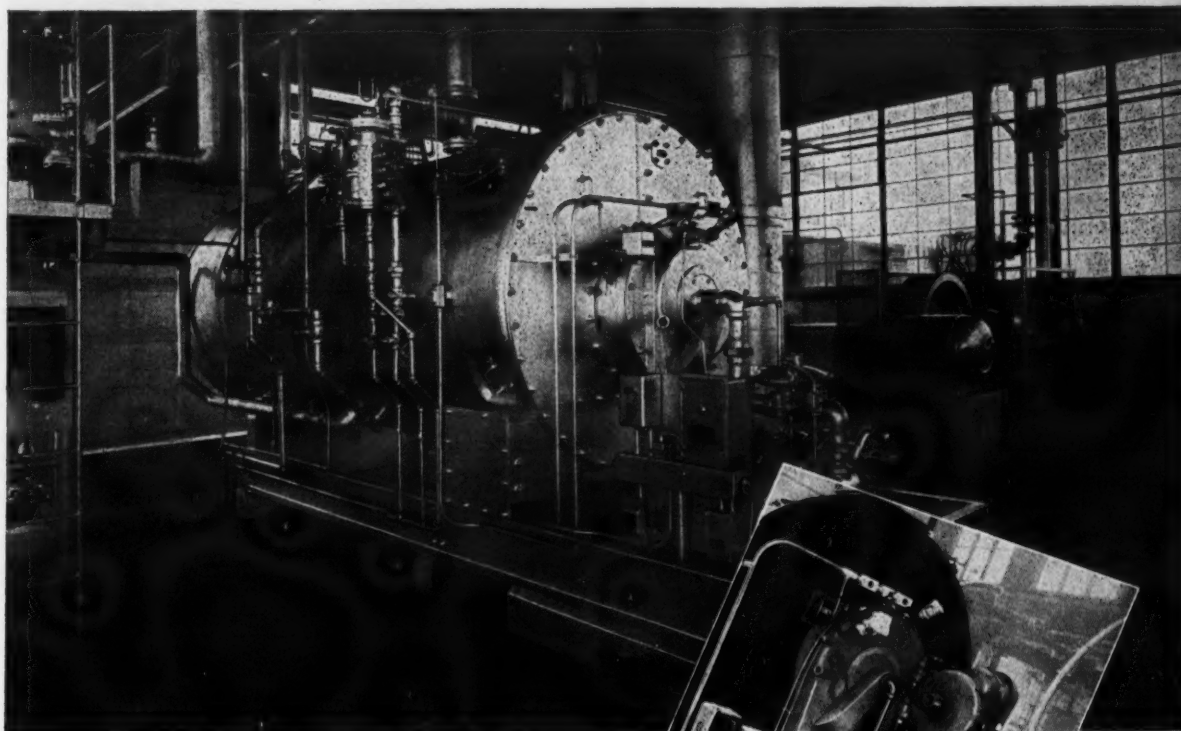
According to the authors, Dr. John F. Haller and S. S. Listek of the Mathieson Alkali Works, this analysis may be carried out within twenty minutes.

The distinction between chlorine and chloramine is said to be important because of the lesser disinfecting power of the latter. Moreover, with increasing interest in the use of chlorine dioxide as a bactericide, a rapid and simple method for distinguishing between these various chlorine compounds in the water system takes on added importance, according to the authors.

The analytical method consists of four amperometric titrations with sodium arsenite, from which the concentration of each component may be readily derived. Free chlorine is determined by titration of a sample from which chlorine dioxide has been removed by hydrolysis at alkaline pH. A second titration, in the presence of iodide, gives the combined concentration of chlorine and chloramine. A third titration, in neutral solution, gives the combined concentration of chlorine, chloramine and one-fifth of the chlorine dioxide. After acid hydrolysis, a fourth titration in neutral solution gives the total oxidizing capacity, thus permitting the calculation of chlorine content. (Mathieson Alkali Works (Inc.), 60 East 42nd St., New York, N. Y.)

NOVEMBER, 1947

A STEAM GENERATOR WITH UNUSUAL ADAPTABILITY AND FLEXIBILITY — BURNS GAS OR OIL WITH EQUAL EFFICIENCY



Close-up of combination burner for gas or oil. Oil burner shown in stand-by position for quick change-over.

Get Guaranteed 80% Efficiency with either Fuel with a Cleaver-Brooks Steam Generator

INSTALL a steam generator equipped to burn the available fuel in your area—either oil or gas. Cleaver-Brooks offers all three: (1) Oil-fired models, (2) gas-fired models, and (3) models equipped with a combination burner which permits alternate use of gas or oil, providing for a quick change-over from one fuel to the other. Equally important—you get Cleaver-Brooks' guarantee of at least 80% efficiency from full load down to 30% of rating—with either gas or oil as fuel.

And that's not all—more advantages are gained using a Cleaver-Brooks "packaged" steam generator. They give you clean, smokeless operation—eliminate fuel-ash handling—require no high or costly stacks—no special



200 HP. Cleaver-Brooks Steam Generator equipped with gas-burner.

foundations—fit under low headroom—flexible operation to meet fluctuating loads. Fully meet all codes.

Investigate Cleaver-Brooks Steam Generators—there's a size to fit your needs—15 to 200 p.s.i., 15 to 500 HP.

CLEAVER-BROOKS COMPANY

343 E. KEEFE AVENUE • MILWAUKEE 12, WISCONSIN



WRITE on your business letterhead for free Steam Cost-Calculator—a ready-reference slide rule showing comparative steam cost when using oil, gas or coal as fuel.

Cleaver-Brooks

"Packaged" STEAM GENERATORS

HAVE SERVED INDUSTRY FOR MORE THAN FIFTEEN YEARS

When inquiring specify CP 3101 . . . see information request blank, pgs. 2-3

**STAINLESS
STEEL
EQUIPMENT**
*Custom Built
to Your
Specifications*



Planning new corrosion resistant processing equipment? Keep in mind that between blue print and finished vessel the experience, skill and

plant of your fabricator may determine how much return you get from your investment—how long and how well it will serve in your plant for your special applications.

We are specialists in stainless steel and alloy fabrication—work exclusively with these metals. Our experienced staff of engineers and mechanics—the special tools, dies and machinery we use—give you increased returns from your expenditures for stainless steel equipment. Consult with us.

S. Blickman, Inc., 711 Gregory Ave., Weehawken, N. J.

South 474-475



S. BLICKMAN, INC.
Guards Alloys in Fabrication

SEND FOR THIS
VALUABLE BOOK
A request on your letter-
head will bring our
guide, "What to Look
for When You Specify
Stainless Steel for Your
Processing Equipment"



CORROSION RESISTANT PROCESSING EQUIPMENT



When inquiring specify CP 3102—see handy form pages 2-3

Ideas

Life of Wire Rope Affected By Drum or Sheave Size

*Overall economy of machine must be considered,
however, in making changes*

Wire rope is a major replacement on many machines. On most applications the size of the sheave or the drum, in relation to the size of the rope affects the service that the rope will give as much as any single factor. The relation of sheave and rope, or drum and rope is called "sheave rope ratio" or "drum rope ratio." By this is meant the tread diameter of the sheave (or drum) in inches divided by the diameter of the rope in inches.

It is generally recognized that the larger the sheave or drum the longer will be the rope life. This is particularly true when the sheave or drum rope ratio is small. For example, considering 6 x 19 rope with a sheave rope ratio of 16, a small increase in rope ratio will show a relatively large increase in rope life. This tapers off until at a sheave rope ratio of 33, the per cent of increase in rope life is the same as the per cent increase in sheave rope ratio. Above 33 the per cent increase is less than the per cent change in sheave diameter. After reaching a sheave rope ratio of 100, there is very little increase in rope life by increasing the diameter of the sheave.

It is evident therefore that the greatest benefit will be derived when existing rope ratios are below the mean value of 33. (When 6 x 19 construction is used).

Of course, increasing drum diameter introduces a number of problems. The overall economy of the machine determines the drum diameter and not merely the fatigue life of the wire rope. The size of the sheave cannot, of course, be specified in terms of the rope alone.

However, the following are usual sheave and drum sizes for various classifications of equipment: Portable excavating equipment, — 10 to 20 times rope diameter; Oil field equipment 12 to 45 times rope diameter; Overhead electric traveling cranes, — 30 to 40 times rope diameter; Passenger and freight elevators, — 40 to 60 times rope diameter. (Summarized from Rope-ology—Mac Whyte Co., Kenosha, Wis.)

★

Air Entrainment Agents Improve Characteristics of Concrete

*Flexural strength with age maintained by 3%
to 5% of air*

Control of air entrapped in concrete is of great importance in maintaining flexural strength with age, improving scaling resistance and in general protecting it against the most common causes of failure. Desirably, entrapped air should be kept between 3% and 5%. Less air will not yield the full benefit; more will reduce the strength without adding to the desirable features.

A preparation is now offered for making the advantage of air entrainment easily available. It is manufactured in both liquid and powder form. Forseeing the difficulties of avoiding small deviations from prescribed amounts, the product is made so that such variation will not do any harm. Also contributing to ease of use is the



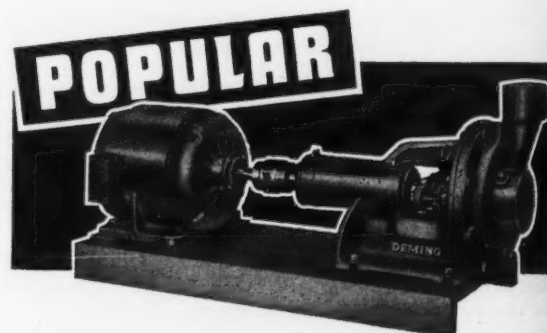
**WHERE YOUR
DUST-HOG
GETS BUTCHERED**

Put Pangborn's new "CK" dust collector into those "dust pockets" where DUST HOG spoils working conditions, causes accidents, adds to maintenance cost. "CK" is self-contained, needs minimum installation expense. Bulletin #6 Pangborn Corporation, Hagerstown, Maryland—world's largest manufacturer of dust control and blast cleaning equipment

Pangborn

PANGBORN CORPORATION, HAGERSTOWN, MARYLAND

When inquiring specify CP 3103—see handy form pages 2-3



Deming Centrifugal Pump

Two Ball Bearing Type with Semi-enclosed Impeller

Fig. 4003, 4013, 4023 and 4033

Sizes 1 to 6 inch

Popularity of these NEW, Standard Deming Centrifugal Pumps is due to their moderate cost and heavy duty construction. Features include:—TWO grease-lubricated, double-shielded ball bearings, widely spaced in fully enclosed, precision-bored, bearing housing; semi-enclosed impellers mounted with tapered fit with key and lock nut on heavy duty precision ground shaft; and many other features. WRITE FOR BULLETIN 4013-A.

THE DEMING COMPANY
260 BROADWAY • SALEM, OHIO

DEMING
THE COMPLETE LINE
PUMPS AND WATER SYSTEMS

When inquiring specify CP 3104—see handy form pages 2-3

CHEMICAL PROCESSING Preview

fact that it may be incorporated in the mix without close regard for the proportion of sand in the concrete. The same amount is used per bag of cement in 4, 5, 6 and 7 bag mixes. Its use is relatively independent of the slump in concrete. No changes in the specified amount are necessary regardless of whether mixes are thick or soupy. It is also independent of mixing time. The percentage of air increases with increase in mixing time, but with a proper amount of the air entraining agent, the air remains within the desirable range of 3% to 5%. (This air-entrainment agent — "Ayr-Trap" — is the product of A. C. Horn Co., Inc., Long Island City, N. Y.)

★

Mineral Wool Pipe Insulation Protects Tire Mold Operators

Effectively used to protect workers using process equipment as well as to save heat

It is well to remember that wherever steam is used to heat processing equipment, — dies, presses, molding machines, steam jackets or, as in the case illustrated here: tire molds — that insulation may be effectively used to protect workers as well as to conserve steam and heat and improve operation of equipment.

When the incoming live steam on this job was being insulated to prevent heat losses and to provide constant mold temperatures, an extra length or two of the



Condensate line insulated with mineral wool

formed mineral wool pipe insulation was installed to shoulder height on the condensate return line to guard employees against burns.

Another "idea" that is of value in processing is the control card to be seen hanging on the incoming line. This card is used to record curing "time in" and "time out."

"Times" are visible through cut out sections of the card and are set by regulating circular dials marked off in hours and minutes. The dials on these cards may be set to indicate the exact time at which the cure is to be taken out, and thus such unreliable practices as written notations or dependence on memory are eliminated. (Industrial Mineral Wool Institute, 441 Lexington Ave., New York, N. Y.)



THAT KEEPS AIR-COSTS FROM PILING UP A SCORE

The more compressed air or gas you use, the more you can economize with Worthington Opposed Steam Driven Compressors. With over 50 years of development behind them, these rugged, tireless performers are up-to-the-minute in every last cost-saving detail. For example:

Pressure feed lubricates each side independently, reducing outage and maintenance to a minimum . . . full accessibility to all steam and air cylinder interiors by

removal of rear cylinder heads only . . . modern, trouble-free bearings for uninterrupted service . . . and Worthington Feather* Valves, most efficient ever made.

Reduced Labor and Maintenance Costs

Following the Worthington formula, these modern Compressors combine high performance

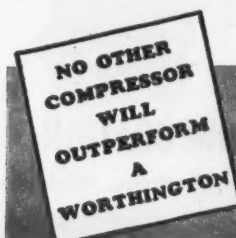
efficiency with minimum maintenance requirements. Their ability to do a better job, year after year, on amazingly low operating costs is familiar proof that *there's more worth in Worthington.*

Write for Bulletin L-680-B1A. Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, New York. 107.7

WORTHINGTON

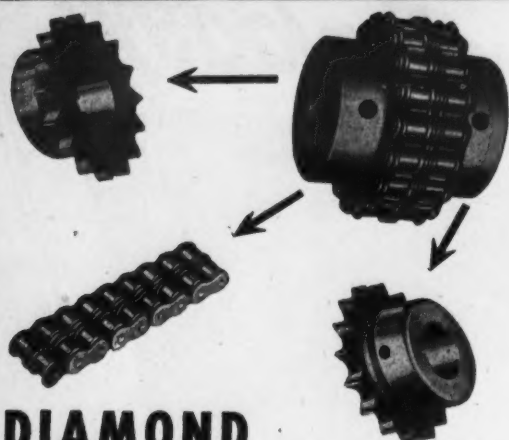


*Reg. U. S. Pat. Off.



When inquiring specify CP 3105 . . . see information request blank, pgs. 2-3

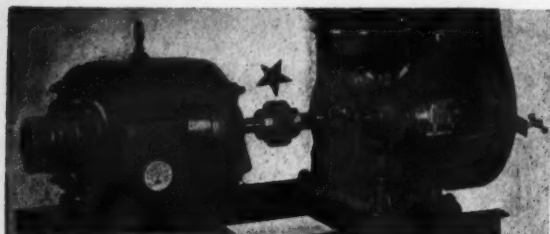
SIMPLE IN DESIGN



DIAMOND FLEXIBLE COUPLINGS

Are Dependable In Service

Only three parts — two sprockets and a length of Diamond Roller Chain — combine to give you the most dependable service in Coupling history. Of all-steel construction, DIAMOND Coupling reliability is due to the design which eliminates frequent replacements in service.



Diamond Coupling on Generator Set.

Ease of installation and quick disconnection are also features made possible by the extreme simplicity. No special tools are required. The removal of one chain connecting link separates the driving and driven units. Double-Strand Roller Chain is used to increase roller-sprocket bearing area thus affording greater horsepower capacity for a given outside diameter.

For durability and maximum operating efficiency, select DIAMOND Couplings to fill your requirements. They are made for fractional horsepower drives and up to 500 H.P. Send for illustrated Coupling Bulletin No. 12. DIAMOND CHAIN COMPANY, Inc., Dept. 411, 402 Kentucky Avenue, Indianapolis 7, Indiana. Offices and Distributors in All Principal Cities.

DIAMOND FLEXIBLE COUPLINGS

When inquiring specify CP 3106 — see handy form pages 2-3

New Literature

Non-Petroleum Cutting, Grinding Compound Mixes 1 to 25, 50 or 100 Parts Water

"Silver Chip," a synthetic, non-petroleum cutting and grinding compound, is the subject of a 4-page bulletin. Applications are listed as including replacement of "straight" and water soluble cutting oils in mixtures of one to 25 and 50 parts water, respectively; and replacement of water soluble grinding oils and compounds, mixing one part to 100 parts water.

Product is described as highly transparent when mixed with water, providing a water coolant "satisfactory for numerous types of tough metal-cutting jobs." Features listed include economy, smoke elimination, reduction of frictional heat, etc. "Silver Chip" bulletin.

MACHINERY LUBRICANTS, INC., Dept. CP, 31 St. James Ave., Boston 16, Mass.

When inquiring specify CP 3107 — see handy form pages 2-3

★

Describes Rubber Mats and Matting

Function, construction and specifications of various types of rubber mats and matting are described in an illustrated, 8-page catalog section. Types shown include platform and standard perforated mats, runner, multi-link and "EzyKleen" matting, molded and perforated mats, types for shower stall, etc. Catalog Section 6100.

THE B. F. GOODRICH COMPANY, Dept. CP, Akron, O.

When inquiring specify CP 3108 — see handy form pages 2-3

1 Gal. of Wetting Agent to 100 Gals. of Water Penetrates Smouldering, Deep-Seated Fires

"Penetrate," a fire-extinguishing compound designed especially for deep-seated, smouldering fires, is described in a four-page, illustrated bulletin. Various tests are illustrated, showing how this compound frees the surface tension of water, allowing it to spread, penetrate and soak into coal piles, bales, etc., faster and more effectively than untreated water.

Literature describes product as less corrosive than ordinary water and used effectively with fresh water, salt water or calcium chloride. One gallon is added to each 100 gallons of water in booster tank and stirred gently. "Penetrate" bulletin.

AMERICAN-LAFRANCE-FOAMITE CORPORATION, Dept. CP, Elmira, N.Y.

When inquiring specify CP 3110 — see handy form pages 2-3

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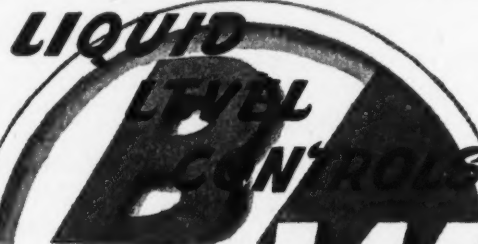
Use Phenolic Resins in Rubber, Adhesives

Various phenolic resins and their uses for making compounded rubber stocks and solvent-type adhesives are briefly outlined in a 4-page, illustrated bulletin. Subjects discussed include acrylonitrile-butadiene and styrene-butadiene copolymers, neoprene stocks, Buna N solvent-type cements, other subjects. "Durez Resins."

DUREZ PLASTICS & CHEMICALS, INC., Dept. CP, North Tonawanda, N. Y.

When inquiring specify CP 3111 — see handy form pages 2-3

ALL ELECTRIC FLOATLESS



Control variations in levels from 1/4" upward. Remote control if desired — any distance. Controls unaffected by acids, caustics, pressures or temperatures.

Since 1933 B/W Controls have provided positive, dependable, economical liquid level control. No floats! No vacuum tubes! No moving parts in liquid.

WRITE FOR CATALOG 147

B/W CONTROLLER CORPORATION

2204 East Maple Road, Birmingham, Michigan

FIRST IN THE FLOATLESS CONTROL FIELD

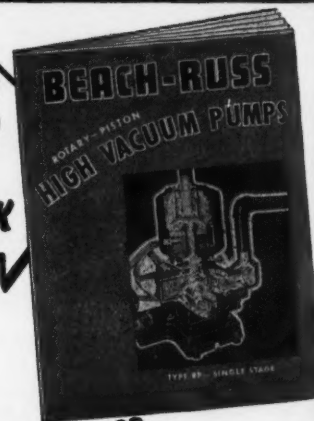
When inquiring specify CP 3109 — see handy form pages 2-3

HOW TO IMPROVE YOUR VACUUM PROCESSES

FIRST

Get a Copy
of THIS
NEW BOOK

SECOND



Learn how the design and performance of Beach-Russ Type RP Pumps, tied into your vacuum equipment, can improve product quality and production efficiency and cut operating costs. You'll see plenty of reasons why their high vacuum capacity and superior service make these pumps a logical choice on your next high vacuum job.

THIRD

Study the long list of satisfied users, consult any among them, whose vacuum processes may be similar to yours. Let their opinions help guide your choice of the right pump for your plant.

BEACH-RUSS COMPANY

46 CHURCH STREET • NEW YORK 7, N. Y.

When inquiring specify CP 3112 — see handy form pages 2-3

Technical Article Tells Characteristics of Pneumatic Diaphragm Motors

"Characteristics of Pneumatic Diaphragm Motors" is a 12-page technical article, in pamphlet form. Fourteen illustrations include cut-away diagrams of lever-type and control valve spring and diaphragm motors; diagram of several proportioning oil burners controlled by one pneumatic motor; charts showing force balance and unbalanced force in butterfly valves; charts and tables of torque requirements and load tabulations; close-up photographs of pneumatic valve positioners, etc.

Author: R. B. Wery, president, Conoflow Corp. Bulletin No. 101.

CONOFLOW CORPORATION, Dept. CP, 2100 Arch St., Philadelphia 3, Penna.

When inquiring specify CP 3113—see handy form pages 2-3

★

Remote Liquid Level Indicators Operate Signal and Control Devices

Remote liquid level indicators are the topic of an informative 16-page bulletin, printed in color. Fully illustrated with charts, photographs and diagrams, literature includes factual descriptions of a special temperature-compensating unit for pressures above 600 lbs., and an automatic signal and control unit which relays audible or visible remote alarms, operating from the indicator, itself.

In addition, information is presented concerning operation, construction and installation details of indicator accessories. Two pages of close-ups show typical installations on boiler room panels. Applications are listed as including storage, expansion, closed and low pressure receiving tanks, deaerating heaters, superheaters, etc. Bulletin WG-1822.

YARNALL-WARING COMPANY, Dept. CP, Chestnut Hill, Philadelphia 18, Penna.

When inquiring specify CP 3114—see handy form pages 2-3

★

"Selector" Aids Choice of Suitable Alloy for Any of 155 Corrosive Services

A 4-page "selector" bulletin alphabetically lists 155 corrosives and relative resistance by 5 different alloys.

Alloy types include high silicon irons, austenitic stainless steel, nickel-base, nickel-molybdenum-chromium, and a nickel-molybdenum alloy.

A table showing the mechanical properties of each alloy enables users of the bulletin to make a selection where two or more alloys are listed as satisfactory for a particular corrosive service. Bulletin 100.

THE DURIRON COMPANY, INC., Dept. CP, Dayton, O.

When inquiring specify CP 3115—see handy form pages 2-3

★

Describes Line of Flow Meters for Corrosive Services

A full line of flow meters for corrosive services is described with photographs, diagrams and dimensions, in an 8-page catalog section. Meters are of porcelain, hard lead, haveg, glass, hard rubber, etc. A section on laboratory-type flow meters is included. Catalog Section 32-F.

FISCHER & PORTER COMPANY, Dept. CP, Dept. 8E-E, Hatboro, Penna.

When inquiring specify CP 3116—see handy form pages 2-3

NOVEMBER, 1947



INDUSTRY PAYS an incalculable bill each year for its inability to garner all its dust. What is your individual share of that tab? How much money, in the form of real pay dust, are you blowing away? Does your present dust-collection system approach 100 per cent recovery? Even if it is as high as 99.5 per cent, what does the remaining 0.5 per cent mean in loss to you? Only 100 lb. a day means approximately 15 tons a year.

You alone can provide the answers.

But we can offer a suggestion as to how to reduce your losses to the irreducible minimum: The **MIKRO-COLLECTOR** will keep your dust out of the air and your

Profits in the Bag.

The **MIKRO-COLLECTOR** with its phenomenal ability to handle even those damp and hitherto baffling dust loads . . . its revolutionary principles, which assure a perpetually clean filter, marking the first radical change in the art of dust-collection in a quarter century . . . supplements our line of **MIKRO-PULVERIZERS** and **MIKRO-ATOMIZERS** in use throughout the world. But it performs with equal efficiency as an auxiliary to any type of grinding machinery, or in general air-clarification.

The value of the **MIKRO-COLLECTOR** in dollar-and-cents . . . its ability to amortize its cost quickly . . . lies in its 99.99 per cent minimum recovery of most solids even in the low micron ranges.

When you want **COMPLETE** recovery . . . whether of dry dust or dust containing a considerable percentage of water or oil . . . it will pay you to investigate the performance of this equipment. Write for your copy of the **MIKRO-COLLECTOR** Bulletin.

PULVERIZING MACHINERY COMPANY

60 Chatham Rd., Summit, N. J.

1325

When inquiring specify CP 3117 . . . see information request blank, pgs. 2-3

**If it's a mixing problem,
Alsop has the answer**

For every liquid processing job

For over 25 years, processing men have relied on the consistent high standard of Alsop "Hy-Speed" Mixers and Agitators — and on the technical service of the Alsop Engineering Corporation to help solve their mixing problems.

Whether your problem is mixing, blending, suspending or dissolving, you can handle it simply and economically with an Alsop "Hy-Speed" Mixer or Agitator.

Perhaps we can help you solve your mixing problem; write us giving details of liquids and quantities to be handled.

Visit our booth No. 293 at the Chemical Show.

ALSOP
ENGINEERING CORPORATION

Filters-Filter Discs-Sheets-Mixers-Agitators

211 Alsop Square, Milldale, Conn.

When inquiring specify CP 3118 — see handy form pages 2-3

LANLY CABINET

Attractively Priced Thru Standardization

**FOUR
SIZES
AVAILABLE**
ranging
from
24"x24"x24"
inside
to
48"x60"x36"
inside

Standardization of design and quantity production of these ovens permit an attractive price and better than average delivery. One order totaled 18 ovens.

They are available for use with portable racks or equipped with shelves.

Convection heated, under close control, they are adapted to a wide range of drying and baking needs.

One of these self-contained units or some other type of the many Lanly ovens for varied industries, will handle your problem satisfactorily and economically.

THE LANLY CO.
OVENS FOR INDUSTRY
HEATED BY GAS, OIL, ELECTRICITY
OR STEAM

750 PROSPECT AVENUE • CLEVELAND, OHIO

When inquiring specify CP 3119 — see handy form pages 2-3

New Literature

**Selenium Rectifiers for DC Requirements
Cover Range of Voltages, Currents**

Selenium rectifiers for direct current requirements are the subject of an 8-page bulletin, size 8-1/2 x 11". Literature includes illustrations of rectifiers covering a range of voltages and currents, along with their electrical characteristics, dimensions and weights. Applications and design factors are also discussed.

There is a derating table for ambient temperatures above 35° C., and a table of selenium plate ratings. Charts and diagrams are included. Information is also presented concerning half wave and miniature selenium rectifiers. Bulletin No. 2.

RADIO RECEPTOR COMPANY, INC., Seletron Division, Dept. CP, 251 W. 19th St., New York 11, N. Y.

When inquiring specify CP 3120 — see handy form pages 2-3

★

**64-Page Catalog Covers Gaskets, Washers,
Sheet Packing and Metal Stampings**

Gaskets, sheet packing, washers and metal stampings are included in a 64-page gasket catalog. Wire-bound, size 8-1/2 x 11", fully illustrated. Includes latest advances in gasket-sealing for various industrial and processing needs. Tabulated specifications are presented, also engineering data.

A few of the products covered include gaskets of cork and synthetic rubber, corrugated metal and asbestos, many types of metal gaskets, pail and drum gaskets, manhole and hand-hole types, boiler gaskets, etc. Also flange protectors, various types of washers in different metals, and assorted sheeting. Catalog No. 47.

MELRATH SUPPLY & GASKET COMPANY, INC., Dept. CP, Tioga and Memphis Sts., Philadelphia 34, Penna.

When inquiring specify CP 3121 — see handy form pages 2-3

★

**Discusses Physicochemical Methods in
the Study of Proteins**

An interesting discussion of physicochemical methods in the study of proteins is presented in manufacturer's publication, "Research Today." Article is 19 pages, includes photographs, color diagrams and full-page color plates, two of which show amino acid side groups that occur in proteins.

Subjects considered include isolation and purification, isoelectric precipitation and other methods; criteria of purity, electrophoresis and solubility curves; physical characterization, sedimentation (the ultracentrifuge), diffusion constant, streaming birefringence and dielectric measurement; miscellaneous methods, chemical and immunological characterization. Vol. 4, No. 2 of "Research Today."

ELI LILLY AND COMPANY, Dept. CP, Indianapolis 6, Ind.

When inquiring specify CP 3122 — see handy form pages 2-3

★

**Supply Dry Air for Instruments from 100 CFH to
15,000 CFM; Atmospheric to 3500 psig**

Dehydrating systems for instrument air supply are described in an illustrated 4-page bulletin. Literature reports that these systems prohibit detrimental effects of contaminated air upon instrument control, end damages caused by rust and "mud" infiltration, maintain

are you stuck



**with a
Viscosity Problem**

too?



**the
BROOKFIELD**

synchro-lectric

is

**rapid
sturdy
simple**

**accurate
portable**

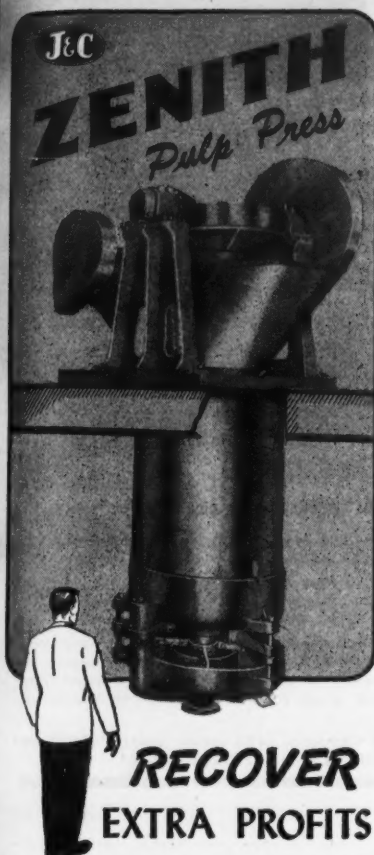
**Send for Bulletin giving
complete information and
description.**

BROOKFIELD

ENGINEERING LABORATORIES, INC.
Dept. L, 2 Porter St., Stoughton, Mass.

When inquiring specify CP 3123
— see handy form pages 2-3

CHEMICAL PROCESSING Preview



...by Increasing PRESSING EFFICIENCY

New uses for the Zenith Pulp Press are being discovered every day. Among the many installations for **DEWATERING** are: BEET PULP • PINEAPPLE • TOMATO POMACE • CORN GERM and FIBRE • VEGETABLES • BREWER'S GRAIN CHERRIES • CITRUS FRUITS • FISH • PAPER PULP RECLAIMED RUBBER • TANKAGE • etc.

100% continuous... from storage bin to pressed cake, the Zenith Pulp Press dewateres up to 26 tons of wet pulp per hour.

The material is fed mechanically to a tapered screw-type spindle that compresses and forces it through the press, discharging liquid through the central orifice and pressed cake to conveyor for disposal.

Constantly rolling pulp assures maximum dewatering. Heater resistors permit steam injection.

A Pilot Press is available for trial in your plant.

"Work Well Done Since '81"

A PRODUCT OF
Jackson & Church Co.
SAGINAW, MICHIGAN

When inquiring specify CP 3124
— see handy form pages 2-3

NOVEMBER, 1947

New Literature

steady pressure and air flow, and eliminate freezing pilot valves and the necessity for parallel steam lines.

Photographs show a unit for 600 lbs. pressure, also a typical dual air-instrument. A diagram shows the unit supplying continuous flow of dehumidified air to air-operated controls. Flows from 100 CFH to 15,000 CFM and pressures from atmospheric to 3500 psig are cited. Bulletin 211.

PITTSBURGH LECTRODRYER CORPORATION, Dept. CP, Foot of 32nd St., Pittsburgh 30, Penna.

When inquiring specify CP 3125—see handy form pages 2-3

★

Describes Nickel-Welding by Metal-Arc, Oxy-Acetylene and Submerged Melt

Materials for metal-arc, oxy-acetylene and submerged melt welding of nickel and high nickel alloys are described in a 16-page booklet. Literature tabulates correct welding methods and materials for joints between similar materials, dissimilar materials, clad steels, overlays. Six pages are devoted to welding electrodes, including close-up photographs of repairs thus made.

Types of gas welding wire and fluxes are covered. General information includes recommended types of welding rods, recommended amperages for electric-arc welding, proper fluxes for gas welding and brazing. Information concerning technical booklets on welding of high nickel alloys and sources of supply for electrodes and gas welding wire is presented. Booklet 186-C.

THE INTERNATIONAL NICKEL COMPANY, INC., Dept. CP, 67 Wall St., New York 5, N. Y.

When inquiring specify CP 3126—see handy form pages 2-3

★

Give Comparative Data on Furnace Black Available in GR-S, Natural Rubber

Test results concerning a fine furnace black available in GR-S and natural rubber are offered in a 6-page technical service report. Colored charts show rebound and maximum tensile strength for both GR-S and natural rubber, also abrasion loss of GR-S and average tear of natural rubber, as compared to stocks containing other FF blacks.

Results of tests are fully tabulated on pages 3 to 6. These cover Continex FF and other blacks in smoked sheet and GR-S. Results are summarized on page 1 and 2. Technical Service Report R-4.

WITCO CHEMICAL COMPANY, Dept. CP, 295 Madison Ave., New York 17, N. Y.

When inquiring specify CP 3127—see handy form pages 2-3

★

Ceramic Insulators, Bushings, Coil Forms and Basic Principles Covered in Catalog

A 28-page ceramics catalog covers tolerances, design data, male, female and special bushings, feed-through, standoff and strain insulators; coil forms, extruded stock, metallized ceramics and miscellaneous ceramic pieces. Characteristics of ceramic bodies, with comparative table of average characteristics, are included. Fully illustrated with various designs, types and their specifications. Catalog 720.

CENTRALAB, Div. of Globe-Union, Inc., Dept. CP, 900 E. Keefe Ave., Milwaukee 1, Wis.

When inquiring specify CP 3128—see handy form pages 2-3

At "The Show of Tomorrow"

New SHRIVER DEVELOPMENTS for Better Filtration

NEW ENCLOSED PRESSURE FILTER

Portable — Fool-proof — Sanitary

▲ Tank never under pressure; no unfiltered material in tank, which is easy to flush clean; filter cartridge may be quickly removed as a unit or in individual plates. Light, quick closing cover on tank, and easy closing hydraulic mechanism for filter unit. Filter plates strong and rigid; stainless steel or other alloy construction.

NEW HYDRAULIC CLOSING DEVICE

for Any Type of Filter Press

Simple to Install • Easy to Operate
Saves Closing Time and Labor

Closes any size press tight with a few light strokes of a hand pump; eliminates need for ratchet, gear and pinion and use of tommy bar, strain on workmen and possibility of damage to parts. As easy as push button operation.

NEW PLASTIC FILTER PRESS

for Corrosive or Delicate Materials

Lightweight, translucent; smooth, easily cleaned surface; resistant to high temperature; costs less than most corrosion resistant alloys and more widely applicable.

Be Sure to Visit
BOOTH No. 12
at the
Chemical Exposition
Dec. 1-6

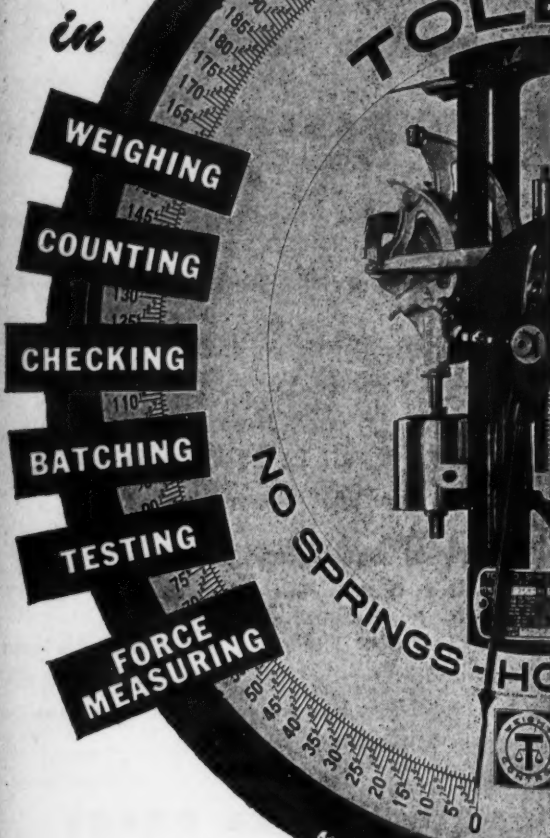
or Write for
Catalogs

T. SHRIVER & COMPANY, Inc.
846 HAMILTON STREET • HARRISON, N. J.

When inquiring specify CP 3129—see handy form pages 2-3

Control Costs and Quality

ALL THE
WAY



Versatile Toledo Scales help control costs and maintain quality standards right from the start... and all the way... in weighing, counting, force-measuring, batching, checking and testing operations. Send for catalog! Toledo Scale Company, Toledo 12, Ohio.

TOLEDO
HEADQUARTERS FOR SCALES

When inquiring specify CP 3130—see handy form pages 2-3

New Literature

Automatically Melts Thermoplastics, Rubber Compounds, in Powder or Blocks

A fully automatic melter for all types of thermoplastics and rubber compounds is described in a 4-page, illustrated bulletin. Said to melt materials in any form, from powder to blocks, without stirring or agitation, unit is constant flow, electrically heated, multiple-thermostat controlled. Reservoir holds 75 lbs. molten material, loading chamber holds 50 lbs. Melting rate, 50 lbs. per hour. For temperature ranges up to 700°F. at 103 psi.

Features and advantages are listed as including automatic push-button controls, short connections to press, easy lining-up and easy loading and unloading by crane, designed to handle by lift truck, can be towed by two men on its own casters, installed and operating in two hours. Photographs show control panel and over-all unit.

CATALOY CORPORATION, Process Equipment Div., Dept. CP, 197 S. Waterman, Detroit 17, Mich.

When inquiring specify CP 3131—see handy form pages 2-3

★

"Lessons in Arc Welding" is Primer of Fundamental Facts

"Lessons in Arc Welding" (third edition) is a 158-page, illustrated text, work-pocket size, cloth-bound. Literature concisely presents certain fundamental facts intended to make welding process successful and economical.

Presented in lesson form (58 lessons), with questions and answers for each lesson included at rear of book. Indexed by subject. Highly practical. Price, 50c per copy, postage prepaid in US; 75c elsewhere. Remit direct to manufacturer, or inquire on inquiry slip.

THE LINCOLN ELECTRIC COMPANY, Dept. CP, 12818 Coit Road, Cleveland 1, Ohio.

When inquiring specify CP 3132—see handy form pages 2-3

★

Explains Function, Operation, Construction of Hot Process Water Softener

Essential function of a hot process water softener system is explained and diagrammed in a 12-page bulletin. Literature describes the system's reaction and sedimentation tank, raw water inlet regulating valve, spray heater, vent condenser, vacuum breaker, recording thermometer and chemical feeding equipment.

Condensate and treated water storage is discussed. Literature includes several cut-aways showing internal operation and parts. Bulletin 28B6611.

ALLIS-CHALMERS MFG. COMPANY, Dept. CP, Milwaukee 1, Wis.

When inquiring specify CP 3133—see handy form pages 2-3

★

Valves, Jets and Fittings Are Corrosion-Resistant

Corrosion-resistant qualities of fittings, valves and jets for chemical processes are discussed in a 4-page bulletin. Literature contains cross-sectional diagrams and specific references to the resistance of Everdur metal to numerous compounds and solutions. Sizes and dimensions are included. Bulletin 7-E.

SCHUTTE and KOERTING COMPANY, Dept. CP, 12th and Thompson Sts., Philadelphia 22, Penna.

When inquiring specify CP 3134—see handy form pages 2-3



Post-War Design Hydroseal Pump

Sixteen pages, crammed full of technical description and engineering data about all three types of Hydroseal Pumps:

- SAND PUMP . . . (Materials, 100% minus 1/4")
- SLURRY PUMP . . . (Materials, 100% minus 48 mesh)
- DREDGE PUMP . . . (Large and heavy materials, up to 6")

Performance tables of all eight standard sizes, with a capacity range from 10 G.P.M. to 12,000 G.P.M. Also, other useful tables and formula for selecting the correct Hydroseal for any pumping job, and a useful "How much money will it save me" graph. Entirely new, up-to-date information. Write for Catalog #547.

The Allen-Sherman-Hoff Company, 1433 Locust Street, Phila. 2, Pa. Representatives in Most Principal Cities.

When inquiring specify CP 3135—see handy form pages 2-3



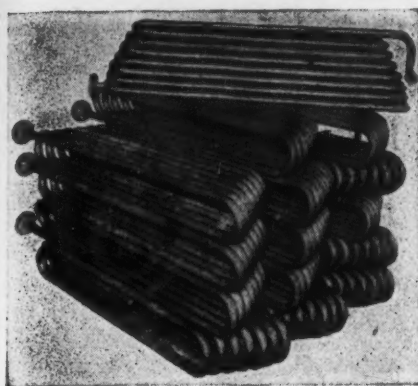
Proved
by
Sales

COUPLING DIVISION
JOHN WALDRON CORP.
Main Office and Works
New Brunswick, New Jersey
COUPLINGS

When inquiring specify CP 3136—see handy form pages 2-3

CHEMICAL PROCESSING Preview

ALLOY



Stainless Fabrication

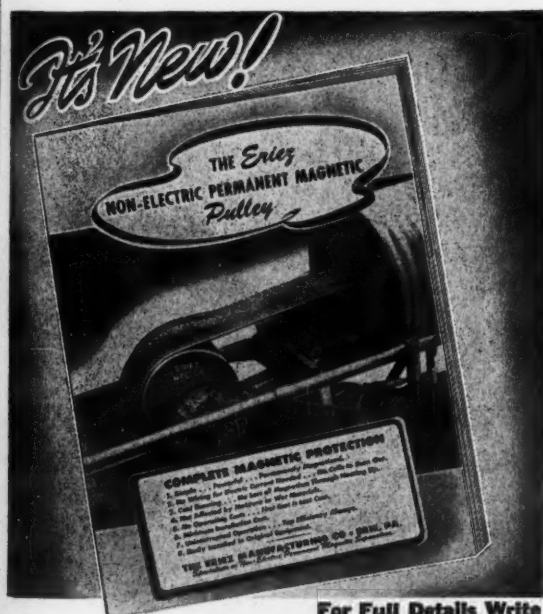
You will like Alloy work on your stainless fabricating; you will like our service, and probably our prices, too.

Let us quote on your needs, and ask us for Bulletin CP 30.

ALLOY Manufacturing Co., Inc.

Horning & Curry Bldg., Pittsburgh 27, Pa.

When inquiring specify CP 3137—see handy form pages 2-3



For Full Details Write
Today for Bulletin 501A

When it's magnetic protection... see Eriez first

Visit our Booth #631 at the New York
Chemical Exposition December 1 to 6

ERIEZ MANUFACTURING COMPANY

16 East 12th Street, Erie, Pennsylvania

When inquiring specify CP 3138—see handy form pages 2-3

NOVEMBER, 1947

New Literature

Electropolish Stainless Steel with Water-Acid Solution

An 8-page operating manual describes nature and use of an electropolishing solution for stainless steel. While not intended entirely to replace mechanical finishing, it is described as providing metal finishers with a new, economical method using a solution of glycolic acid, sulphuric acid and water.

Described as remaining liquid at room temperature, operating over wide range of current densities, easily controlled by non-technical operators. Employs substantially same equipment as electroplating.

E. I. du PONT de NEMOURS & COMPANY (INC.), Electrochemicals Dept., Dept. CP, Wilmington 98, Del.

When inquiring specify CP 3139
—see handy form pages 2-3

★

1000-lb. Fork-Lift Truck Has Many Uses

A 16-page, 6x9" booklet illustrates and describes 14 ways in which this manufacturer's 1000-lb. fork-lift truck handles a wide variety of lift-haul chores common to most industrial plants.

Action photographs show the truck doing "between-jobs" work such as moving empty drums which clutter usable space, and handling other essential routine tasks which prevent bottle-necks and "keep things moving." Title: 14 of the 101 Ways to Cash In On Clark Trucloder."

CLARK TRUCLADER, Division of
Clark Equipment Company, Dept. CP,
Battle Creek, Mich.

When inquiring specify CP 3140
—see handy form pages 2-3

★

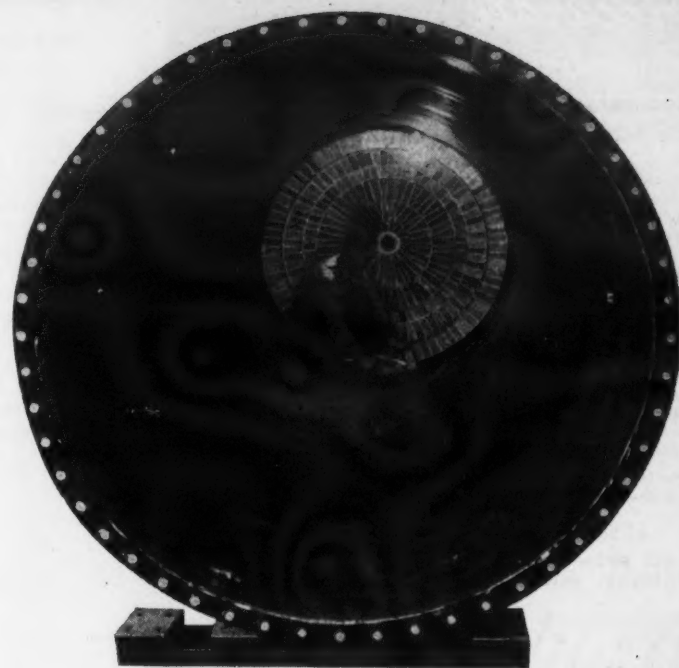
Bulletin Illustrates 22 Different Marking, Coding Machines

22 different industrial marking and coding machines are illustrated and described in a 4-page brochure. These include automatic, semi-automatic and manual devices for imprinting, indenting, semi-perforating and etching items from paper bags to cylindrical metal parts.

Suitable applications for each machine are described. This information is amplified by an attached index referring to specific machines for various types of containers.

ADOLPH GOTTSCHO, INC., Dept. CP,
1 Hudson St., New York 13, N. Y.

When inquiring specify CP 3141
—see handy form pages 2-3



A Pyroflex-lined steel reactor vessel with acid-proof brick and cement sheathing being installed.

PYROFLEX CONSTRUCTION

Means Acid-Proof Functional Equipment

Whether you need fume washers, absorbers, towers, tanks, or other equipment for handling corrosives, Pyroflex constructed functional units will provide you with maximum resistance to corrosive action.

Each unit is designed and built to do a specific job. Engineered with an eye to its operating purpose, the choice of proper materials such as the lining materials, brick, cement, outlets and the method of installation combine to make a unit that will stand up in service.

Pyroflex Functional Equipment is backed by many types of successful installations in various industries. Please give full details when making inquiries.

PYROFLEX PAINT

for Exterior Protection

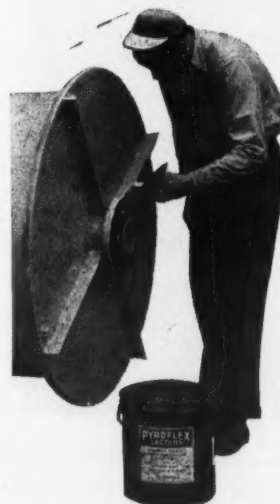
We use it on the outside of all our Pyroflexlined steel tanks. Pyroflex lacquer is highly resistant to the action of acids, alkalis and other corrosive agents and may be used on metal, concrete, wood or previously painted surfaces — no primer coat required. Some companies use it on all exterior surfaces subject to corrosive action.

Available from stock in grey, black and white, shipped in 1-, 5- or 50-gallon containers. Red, green, aluminum and clear may be had in minimum lots of 50 gallons. For further details, write

MAURICE A. KNIGHT

4011 Kelly Avenue

Alton 6, Ohio



When inquiring specify CP 3142—see handy form pages 2-3

Accurate Temperature Control NEED NOT BE COSTLY

New **LESIE** Self-Contained Regulator controls temperature closely for heating or cooling service. Single seated in sizes 1/2-4" inclusive for steam pressures to 125 psi (175 psi liquid) and steam temperatures to 450 deg. F.

Class "T" Temperature Regulator, designed particularly to meet the need for reliable, constant temperature control of industrial hot water supply, process liquids, etc. Responds quickly to all temperature changes . . . guaranteed for dead-end service.

Write for descriptive bulletin "Controlled Heat".

LESIE CO.
281 GRANT AVENUE
LYNDHURST, NEW JERSEY



Lowest Overall Cost per Operating Year

PRESSURE REDUCING VALVES • PRESSURE CONTROLLERS
PUMP GOVERNORS • TEMPERATURE REGULATORS
SELF-CLEANING STRAINERS • LESLIE-TYFON WHISTLES

When inquiring specify CP 3143 — see handy form pages 2-3

New Literature

Vacuum Systems Do Pneumatic Conveying, Clean Tubular Boiler Flues, etc.

Stationary and portable vacuum systems for pneumatic conveying and special applications such as flue cleaning of tubular boilers, collecting chips from milling machines, etc., are described in a 4-page bulletin. Literature is fully illustrated with application photographs, diagrammatic drawings, pictures of over-all units and special pick-up and dumping equipment.

Conveying units are described as ranging from 2 to 100 hp with capacities up to 5 tons per hr. when used on dry and free-flowing granular or pulverized materials. Motor or gasoline-driven for handling chemicals, coal dust, soda ash, metals, minerals, etc. Unit consists of vacuum producer, separators, vacuum lines and pick-up tools. Descriptive Bulletin No. 143, Sec. 3.

THE SPENCER TURBINE COMPANY, Dept. CP, Hartford 6, Conn.

When inquiring specify CP 3144 — see handy form pages 2-3

*

Stacks Pallets at Right Angles from 8' Aisles

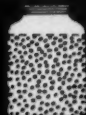
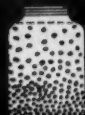
An "Aisle Saver" lift truck, built to stack palletized products at right angles from 8-foot aisles, is illustrated and described, with specifications, in a 6-page folder. Overall length, 92 3/8". Capacities, 2000 lbs. at 34" load length; 1750 lbs. at 42" load length.

CRESCENT TRUCK COMPANY, Dept. CP, Lebanon, Pa.

When inquiring specify CP 3145 — see handy form pages 2-3

Powdered Materials PACKED TIGHTER

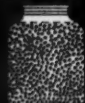
LOOSE PACKING



Not Uniform

After Settling

TRIANGLE PACKING



Uniform Tight Pack
Smaller Container

WITH THE TRIANGLE MODEL U-1 AUGER PACKER

If your powdered materials are packed loosely they'll settle after handling . . . and there's no sales appeal in a package that doesn't appear full! The answer is the Triangle Model U-1 Auger Packer:

1. It packs uniformly and tightly, enabling you to use a smaller, less expensive container.

2. Gives greater consumer acceptance to your product because it's a fully packed package.

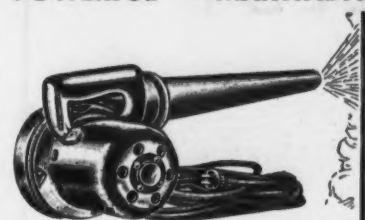
Simple . . . easy to operate . . . accurate . . . labor saving . . . this machine now available for "immediate delivery." Take the first step to better packaging by writing today for a bulletin which gives complete details.

TRIANGLE PACKAGE MACHINERY CO.

917 N. SPAULDING AVENUE, CHICAGO 51, ILL.

When inquiring specify CP 3146 . . . see information request blank, pgs. 2-3

BLOW DUST AWAY WITH POWERFUL MARTINDALE BLOWERS



These powerful blowers have many uses — on motors, in stock bins, etc. Suction attachments are available to change them into vacuum cleaners in a few moments.

All motors are Norma Precision Ball Bearing, require no oiling, have 20 ft. of reinforced cord complete with rubber plug, and 11" semi-hard rubber nozzle.

MILL-TYPE BLOWER

Discharges over 75 cu. ft. of air per minute. Has full 1 H.P. General Electric Universal Motor; 110, 220 or 250 volt.

Price . . . \$87.50

Price complete with Suction Attachments . . . 99.50

SUPER-BLOWER

Discharges over 60 cu. ft. of air per minute. Has 3/5 H.P. General Electric Universal motor; 110, 220 or 250 volt.

Price . . . \$67.50

Price complete with Suction Attachments . . . 79.50

BLOW-ER CLEAN

Discharges over 50 cu. ft. of air per minute. Has 1/2 H.P. General Electric Universal motor; 110, 220 or 250 volt.

Price . . . \$49.50

Price complete with Suction Attachments . . . 61.50

Write for new Catalog No. 26 which covers these and many other items of production and maintenance electrical equipment.

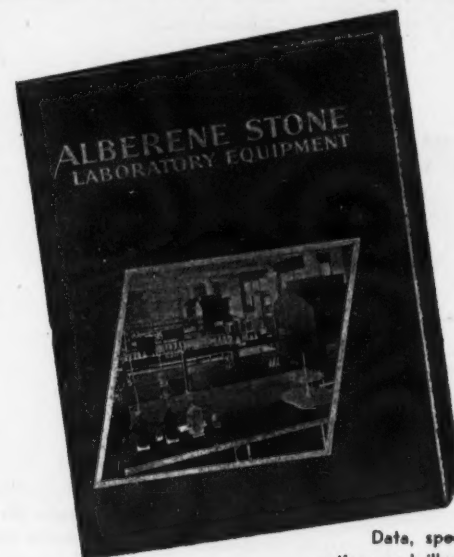
MARTINDALE ELECTRIC CO.

1358 HIRD AVE.

CLEVELAND 7, OHIO

When inquiring specify CP 3147 — see handy form pages 2-3

SEND FOR THIS CATALOG!



Data, specifications and illustrations . . . factual and helpful . . . about Alberene Stone, the material that outlasts the building.

ALBERENE STONE CORP. OF VIRGINIA
419 4th Ave., New York 16, N. Y.

When inquiring specify CP 3148 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

Small Steel Valves with Big Valve Features

SIZES: 1/4 to 2 in.

A Complete Line for Working Pressures up to 600 Pounds at 900 Deg. F.—for Steam, Water, Oil, Oil Vapor, Gas, Air, etc. Screwed, Flanged, or Socket-Welding Ends.



SEND FOR FREE FOLDER AD-1585

Shows the complete range of this Crane quality line... OS&Y Wedge Gates... OS&Y and Inside Screw Globe and Angle Valves... Vertical and Horizontal Check Patterns. Also shows the many refinements that make these small valves such big values for high pressure—high temperature working conditions.

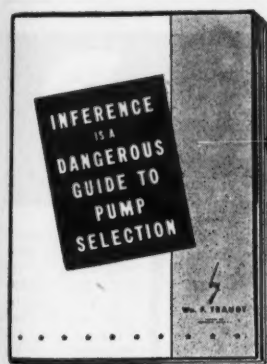
CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE

Everything for
Every Piping
System

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

When inquiring specify CP 3149—see handy form pages 2-3



LEARN THE BASIC FACTS

BEFORE DECIDING UPON TYPE OF PUMP

Fault-filled enthusiasms for certain types of pumps now running rampant in industry, are dangerous. Because a type of pump performs sensationally on somebody else's job, it isn't necessarily certified to your use.

The unbiased, basic facts concerning types of pumps are contained in our special bulletin S-146. Big illustrations and briefed descriptions deal with the capacities and adaptability of such types as piston, plunger, rotary and centrifugal pumps. We'll gladly send a copy free, if you will request it on your company letterhead.

TABER PUMP CO. • Est. 1859 • 320 ELM ST., BUFFALO 3, N. Y.

Taber Pumps for Higher Practical Performance

When inquiring specify CP 3150—see handy form pages 2-3

NOVEMBER, 1947

New Literature

Geiger-Mueller Counters Aid In Mining, Oil Well Logging

"Geiger-Mueller Counters Applied to Mining" is a 4-page, illustrated folder. Explains Geiger counter theory, details of construction and operation, and applications in mining work.

Techniques with isotopes, use in pitchblende exploration, oil well logging and geological surveys are treated. New fields are suggested where Geiger counters may help in locating valuable minerals, assaying ore samples, determining concentration and flow of certain products, and scanning ore faces to determine grade.

Photos, curves, diagrams and tables are included. Form R1050.

NORTH AMERICAN PHILIPS COMPANY, INC., Dept. CP, 100 E. 42nd St., New York 17, N. Y.

When inquiring specify CP 3151
—see handy form pages 2-3

★

Automotive, Aeronautical Design Affects Liquid Fuel Research

"Fuels of the future" is a 48-page summary of technical discussions revealing how improvements in automotive and aeronautical design, and new mechanical power-generating devices, are influencing research in liquid fuels. These discussions were held at an "open house" for science writers, and sponsored by Standard Oil Development Company.

Subjects discussed include fuels for reciprocating automotive and aircraft engines, gas-turbines and jet-propulsion fuels, ram-jet motors, and fuels of the future. Six power-producing devices using different fuels are shown graphically.

STANDARD OIL COMPANY (NEW JERSEY), Educational Service, Dept. CP, 30 Rockefeller Plaza, New York 20, N. Y.

When inquiring specify CP 3152
—see handy form pages 2-3

★

Gotham Health Department OK's Tilting Agitator Kettles

Super-jacketed New York-type tilting agitator kettles are featured in a 4-page illustrated bulletin. Of stainless steel, pure nickel or monel, they are said to be approved under stringent requirements of the New York City health department.

LEE METAL PRODUCTS COMPANY, Inc., Dept. CP, Philipsburg, Penna.

When inquiring specify CP 3153
—see handy form pages 2-3

NO MATTER HOW Big THE JOB— NO FLAW IS TOO Small



12' diameter x 20' high chemical processing vessel of 3/4" aluminum. All welded construction.

Steel fractionating tower for synthetic rubber industry. 5' 6" diameter, 120' high.

Deaerator tank with flanged and dished head, frustrated cone end — 10' diameter, 26' long.

NOOTER INSPECTION — CORRECTION TECHNIQUES ASSURE DEPENDABILITY

The larger the job, the greater the possible consequences of failure from some small flaw. For this reason, rigid inspection is the uncompromising Nooter formula for unvarying quality in each step of fabrication.

Hydrostatic or pneumatic tests on complete units and their fabricated parts, inspection of vital welds with X-ray equipment and stress relieving are important parts of Nooter procedure which never compromises with safety or quality.

Send for the Nooter Corrosion Data Charts
Yours for the Asking



JOHN NOOTER Boiler Works Co. • 1428 S. Second St., St. Louis 4, Mo.

When inquiring specify CP 3154—see handy form pages 2-3

moyno pumps stand up



Two Moynos pump liquid pigment to filter presses at H. Kohnstamm & Co., Brooklyn, N. Y. Pressure increases from 20 to 100 p.s.i. as press fills.

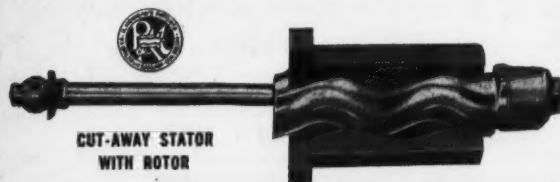
Moyno qualifications for "impossible" pumping jobs are *unmatched*. Continuous non-pulsating pressure—self-priming, positive suction—ability to handle *particles and solids in suspension*—remarkable resistance to chemical and abrasive action. Moynos *stand up* where other pumps fail.

DEPENDABLE IN ANY APPLICATION

Moynos handle virtually *anything* from volatile liquids to non-pourable pastes—yet they have no pistons, valves, or high-speed impellers. The patented rotor is the *only* moving part. Quiet, reversible, durable—Moynos do *everything* well. "Other pumps do not compare with Moynos in efficiency and general satisfaction," says R. Fried, Plant Engineer, H. Kohnstamm & Co. "Moynos are the *best pumps we ever had*."

FREE BOOKLET TELLS HOW

Find out what these amazing pumps can do for you. Write *today* for our *free* booklet, "A Turn for the Better." It gives uses, capacities, pressures, dimensions. Distributors in principal cities.



These two parts of the Moyno pumping element work together to form continuous, ever-changing seal lines. Wear is distributed uniformly over the entire surface of the rotor and the whole inner area of the stator for long pump life.

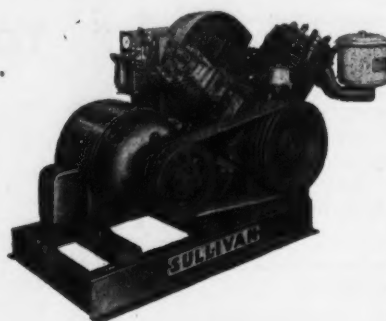
ROBBINS & MYERS • INC.
MOYNO PUMP DIVISION • SPRINGFIELD, OHIO
HOISTS & CRANES • MACHINE DRIVES • MOTORS • FANS • FOUNDED 1878

When inquiring specify CP 3155—see handy form pages 2-3

Production Equipment

2-Stage Air Compressors Are Air-Cooled, 15 to 100 hp.

Nine sizes may be equipped for gasoline or diesel use; three standard drives



Air-cooled air compressor

USES — Line of 2-stage, air-cooled, stationary air compressors of wide use as a compressed-air source for standby service, small manufacturing plants and foundries.

May be equipped for use with gasoline or diesel engines.

FEATURES — Compact. Vibration-free operation. Requires only small foundation. Eliminates expense of installing water pipe and supplying water for cooling. Economical performance.

DESCRIPTION — Nine sizes range from 15 to 100 hp requirements. Piston displacements from 81 to 590 cu. ft. per min. at 100 lbs. discharge pressure per sq. in.,

based on 60-cycle motor speeds. Completely air-cooled. Three standard electric drives: built-in motor, direct-connected motor and V-belt. Positive, gear-driven pump supplies force-feed lubrication through rifle-drilled oil passages. "Cascade" oil-cooling reduces sludging, oil consumption. Direct concentric valves are low-lift, large port-area. Low piston speeds. Oversize ball-type main bearings.

Oil economy and air compression efficiency are increased by the fact that four piston rings per piston are mounted above the pin. Full details concerning "Unitair" compressors are presented in Bulletin GG-5A, available from the manufacturer.

JOY MANUFACTURING COMPANY, Sullivan Division, Dept. CP, Oliver Bldg., Pittsburgh 22, Penna.

When inquiring specify CP 3157—see handy form pages 2-3

★

Bend Rubber Gypsum-Mix Bowls to Any Shape for Pouring

They're cleaned by bending, too; set cement breaks, falls out

USES — Neoprene-rubber mixing bowls for preparation and use of gypsum cements and plasters by laboratories, pattern shops, etc.

FEATURES — Quickly and easily cleaned by simply flexing pliable utensils between the hands; set cement

Largest in the Silica Ware Industry



To back up Amersil's research program to produce silica and quartz ware that lasts longer, we have installed at Hillside an annealing furnace which we believe to be the largest in any silica ware plant.

That annealing adds to the life of silica ware is attested by a customer who writes:

"Annealed Amersil silica trays last a minimum of ten times as long as those not annealed."

For further information on Amersil research and service, write for the new Amersil® catalog today.

*Trade Name Registered

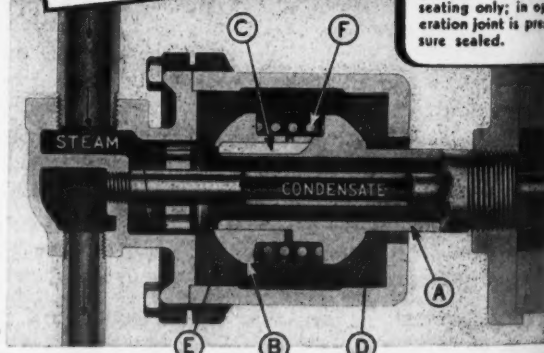
AMERSIL COMPANY Inc.
CHESTNUT AVENUE ENGELHARD HILLSIDE 5, N. J.

When inquiring specify CP 3156—see handy form pages 2-3

GOT A JOB FOR JOHNSON JOINTS

You have if you're faced with a problem that involves getting steam or liquids into rotating machine parts. The Johnson Rotating Pressure Joint is completely packless, self-oiling, self-adjusting, and even less, self-aligning. Industry has already put 100,000 to work, in barely ten years. Type B shown provides for condensate removal; other types and sizes for all needs. Write for details.

Nipple (A) connected to roll or drum. Sliding collar (B) keyed (C) to nipple. Carbon-graphite seal ring (D) and bearing ring (E) eliminate oiling and packing. Spring (F) is for initial seating only; in operation joint is pressure sealed.



THE JOHNSON CORPORATION
826 Wood St., Three Rivers, Michigan

When inquiring specify CP 3158—see handy form pages 2-3

CHEMICAL PROCESSING Preview



Flexible mixing bowls for gypsum cements

or plaster will immediately break loose and fall out. Practically indestructible in services for which they are intended.

Will not break, chip or corrode. Unaffected by water. Lightweight and easy to handle. Can be bent into any shape to make pouring quick and convenient.

DESCRIPTION — Made of neoprene, a synthetic rubber. Available in 5 capacities: 5 quarts, 1-1/2 quarts, 1-1/4 pints, 3/4 pint, 4 ounces.

THE KINDT-COLLINS COMPANY, Dept. CP, 12651 Elmwood Ave., Cleveland 11, O.

When inquiring specify CP 3159 — see handy form pages 2-3

★

Foam-Type Truck Extinguishers Squelch Flaming Oil, Gasoline

Generate chemical foam about 10 times own capacity. Effective at 40 feet



"Firefoam" extinguisher

USES — Foam-type fire extinguisher for tank trucks and large vehicle units. For oil and gasoline fires.

FEATURES — Prevents refashing. Produces fire-squelching chemical foam about 10 times its capacity. Reaches fire beneath truck bodies, also all other surfaces. Splash-proof.

DESCRIPTION — Stream range, 35 to 40'. Similar to type carried on fire en-

gines, except for carrying straps. Built-in sealed stopper at top prevents mixing of chemicals until needed. Seal is released by twist of wrist. Seamless drawn shell construction is tested to 550 lbs. pressure.

Like other foam extinguishers, it must be protected from freezing.

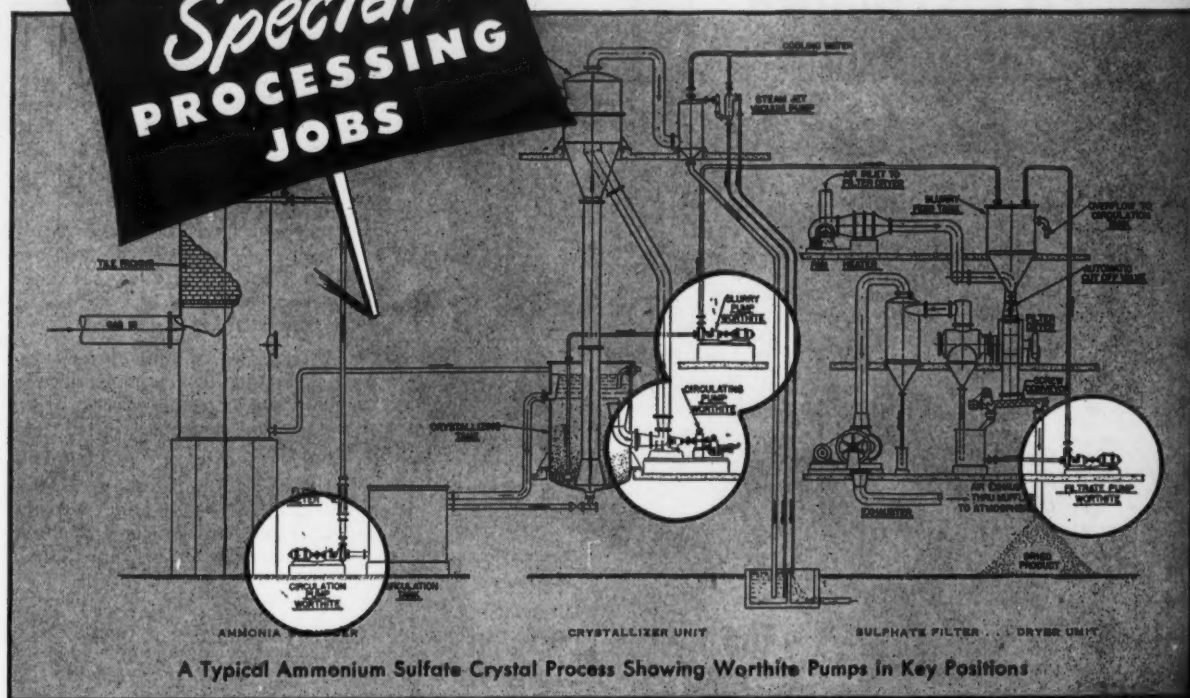
AMERICAN-LaFRANCE-FOAMITE CORPORATION, Dept. CP, Elmira, N. Y.

When inquiring specify CP 3160 — see handy form pages 2-3

NOVEMBER, 1947



Investigate these Standard pumps in super-stainless Worthite



Worthington Worthite Pumps have solved many problems involving corrosive or corrosive-abrasive liquids. For example:

In this modern ammonium sulfate crystallizer process, standard Worthington Worthite Pumps are used. At one point, a Worthite Pump handles crystals with negligible breakage — an important advantage, since unbroken crystals, being uniform and dustless, are superior to saturator-produced crystals and competitive with the best synthetic or imported product.

Here's an instance where Worthite Pumps benefit product

quality! In addition, their high resistance to corrosion and abrasion makes them ideal for handling a wide range of acids, alkalis and salts — clear liquids or slurries — efficiently and economically.

Look Into This Improved Stainless Steel

Learn more about Worthite —

a high-nickel, high-chromium, low-carbon molybdenum alloy steel. For facts that prove *there's more worth in Worthington*, call our nearest District Office. Or write to Worthington Pump and Machinery Corporation, Centrifugal Pump Division, Harrison, N. J.



WORTHINGTON



THE
WORLD'S LARGEST
MANUFACTURER
OF PUMPS



Types CG and CGL. Sizes 1/2" to 10". Capacities to 5000 GPM; heads to 200 ft. Liquid ends of WORTHITE alloy.



Type CP. Sizes 1" to 4". Capacities to 1000 GPM; heads to 130 ft. Standard, all iron and all bronzes.



Type CQ. Sizes 1 1/2" to 3". Capacities to 600 GPM; heads to 130 ft. at 1750 RPM. Closed impeller. WORTHITE alloy and stainless.



Type L. Sizes 3" to 8". Capacities to 2250 GPM; heads to 300 ft. Single stage volute. For general service.

When inquiring specify CP 3161 . . . see information request blank, pgs. 2-3

PIPE REAMING

NOW MADE

fast, safe, easy



The
RIGID
extra-long-taper
does the trick—saves
you time, muscle and pipe

● You ream pipe fast and easily with this extra efficient long-taper **RIGID** reamer. Long-taper prevents thinning, flaring or splitting pipe or conduit. Even on hurried work you whisk out burr cleanly with a few light ratchet strokes, leaving pipe clean and unmarred. Comes complete with ratchet handle — or will fit your **RIGID** No. 00R threader handle. Save pipe, time and work. Buy it at your Supply House.

Reamer unit alone may be bought for your **RIGID** No. 00R threader handle.



RIGID

WORK-SAVER PIPE TOOLS
THE RIDGE TOOL COMPANY • ELYRIA, OHIO

When inquiring specify CP 3162 — see handy form pages 2-3

Page 58

Production Equipment

Gate Valves Are Like Cast Iron, But More Resistant

Manufacturer reinstates "Ni-Resist" line for pulp, creosote and refinery uses



"Ni-Resist"
gate valve

USES — Gate valves for services in which the fluids to be handled require a less active metal than cast iron, but in which the cost of special corrosion-resistant valves is prohibitive.

Especially suitable for soda and sulfate pulp mill service, for creosote used in wood preserving, for handling sour distillates and crudes in petroleum refinery work.

FEATURES — Manufacturer reports resistance to erosion and wear is definitely superior to cast iron, and corrosion resistance is substantially better.

DESCRIPTION — Contain "Ni-Resist," the strength and physical characteristics of which are about the same as cast iron, but which has features mentioned above.

Discontinued prior to war, but now reinstated, these valves are wedge disc, outside screw-and-yoke type.

Complete TIMING SYSTEMS

FACTORY
ENGINEERED
& ASSEMBLED

Wherever one or more electrically operated devices must function in accurate relation to each other—for both duration and sequence—Timers can, in most cases, do the controlling job most accurately and efficiently. Complete panels, built to specified space limitations on machines or processes, may be comprised of interwired Timers, relays, push buttons, circuit breakers, switches, indicator lights, etc.—delivered as a unit package by ATC, ready for simple installation and hook-up to one clearly marked terminal block. ATC has supplied thousands of such systems to complete satisfaction of users. Write for a copy of "The Case for Engineered Time Controls".



UNIQUE, STANDARD LINE AND SPECIAL
AUTOMATIC TEMPERATURE CONTROL CO., INC.
LOGAN ST. & GERMANTOWN AVE. • PHILADELPHIA 44, PA.

When inquiring specify CP 3163 — see handy form pages 2-3

This is Inland 4-Way Floor Plate



SAFE!

ECONOMICAL!

EASY TO INSTALL!

Carried by all leading Steel Distributors...Write for Catalog

INLAND STEEL COMPANY

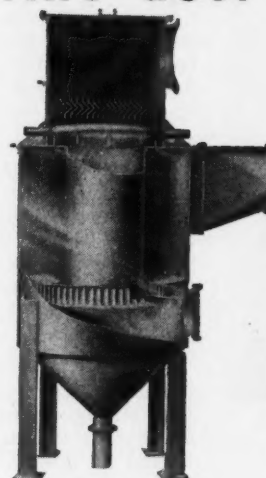
38 S. Dearborn Street

Chicago 3, Ill.

Sales Offices: Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis, St. Paul

When inquiring specify CP 3164 — see handy form pages 2-3

RID your plant of fine dust and fumes



Cut-away view of Type
"S" Hydro-Clone.

Whiting Type "S" Hydro-Clone suppresses fine dust and fumes with water. It absorbs obnoxious gases and reduces dust particles to harmless sludge. The sludge-laden water drains to a tank where sludge settles out before the water is recirculated.

The unit is self-cleaning, and has no moving parts, screens, cloth bags, or spray nozzles—hence maintenance is eliminated.

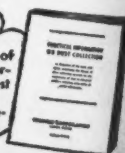
The Type "S" Hydro-Clone will handle air or gas at temperatures up to 1200 F. Available in capacities from 2,000 to 30,000 cfm. Write for Bulletins FY-110 and FY-114.

**WHITING
CORPORATION**

15667 Lathrop Ave.
Harvey, Illinois

FREE

New booklet of
Practical Information on Dust
Collection.
Ask for Bulletin FY-142.

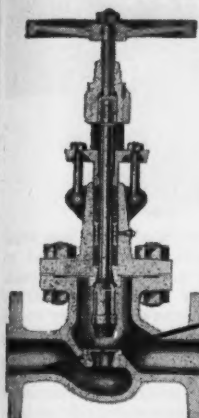


When inquiring specify CP 3165 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

IMPROVE WITH USE!

LUDLOW SUPERFLOW



MULTI-VALVES require no re-grinding! Scientifically-designed Superflow plug and seat afford multi-contact, metal-on-metal seating that actually improves with use! With LUDLOW Superflow Multi-Valves you obtain

STRAIGHT LINE THROTTLING



COMPLETE SHUT-OFF

MINIMUM HEAD LOSS

Do you have a difficult shut-off or throttling problem on your lines? Install a LUDLOW Superflow Multi-Valve—and forget it! Write for illustrated bulletin.

SM-2B

LUDLOW VALVE
MFG. CO. INC. TROY, N.Y.

When inquiring specify CP 3166—see handy form pages 2-3

PUMP with BALANCED POWER

AMERICAN Double Suction and Two-Stage Centrifugal Pumps Minimize End-Thrust Wear... Give Longer Trouble-Free Service



The principle of balanced power... the equalization of hydraulic forces... engineered into these two outstanding clear liquid pumps, prevents motor power from being frittered away in costly and useless end-thrust. Horse power is devoted to the specific task of pumping!



Type 4000 Double Suction—Split case, ball bearing design. Enclosed, bronze, double suction impeller... all water passages hand finished and exterior surfaces machined. Capacities from 50 to 7000 GPM. Heads from 25 to 250 feet. Bulletin No. 248.



Type 4400 Two Stage—Split case, ball bearing design. Passage from first to second stage entirely within casing. Back-to-back, enclosed, single suction, bronze impellers. Capacities from 50 to 1500 GPM. Heads from 50 to 450 feet. Bulletin No. 246.

ENGINEERING SERVICE—Our engineering staff is well qualified to aid industrial and operating engineers in the selection of pumping equipment to meet individual needs.

American Well Works

122 No. Broadway, Aurora, Ill. • Research, Engineering, Manufacturing
Pumping, Sewage Treatment, and Water Purification Equipment

When inquiring specify CP 3167—see handy form pages 2-3

NOVEMBER, 1947

Production Equipment

Regularly furnished with screwed ends in sizes $\frac{1}{2}$ to 2", and with flanged ends in sizes from 1 to 8". All valves in sizes 3" and smaller have the clamp-type bolted bonnet, while sizes 4 to 8" inclusive have the conventional-type bolted bonnet.

Body and bonnet of all valves, the disc in sizes 4" and larger, and the gland in sizes 3" and smaller, are made of Ni-Resist. For added corrosion resistance the stem and body seat rings, the disc in sizes 3" and smaller, and the disc facings in sizes 4" and larger are made of 18-8 alloy steel.

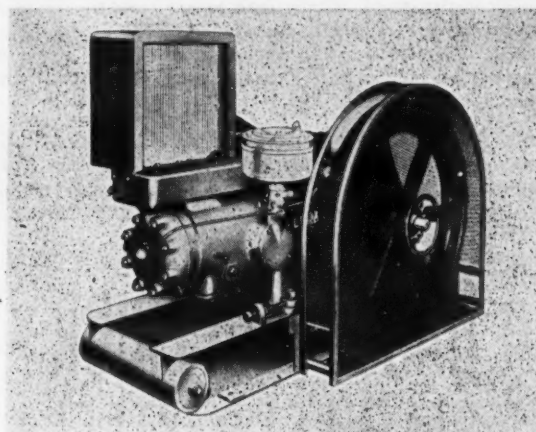
CRANE COMPANY, Dept. CP, 836 S. Michigan Ave., Chicago 5, Ill.

When inquiring specify CP 3168—see handy form pages 2-3

★

Heavy-Duty, Multi-Fuel Engine Rates 10.7 hp at 300 rpm

Single-cylinder horizontal, 2-cycle unit is prime mover; rates 21.4 hp at 600 rpm



Heavy-duty, multi-fuel engine

USES — Heavy-duty, single-cylinder horizontal, two-cycle multi-fuel engine for chemical, paper, textile, quarry and similar applications.

For operation on diesel fuel, natural gas or butane. Currently employed as a prime mover for oil well pumping units, pipe line pumps, generators, etc.

FEATURES — "Wet" cylinder liners can be replaced in the field. Condenser-type cooling system eliminates need for water pump. Makeup water is negligible.

DESCRIPTION — Rating is 10.7 hp at 300 rpm; 21.4 hp at 600 rpm. Has $7\frac{1}{2}$ " bore, 8" stroke, with Timken bearings on crankshaft and cross-shaft. Condenser-type cooling system. Standard equipment includes Twin Disc clutch, Pierce governor, Air Maze oil bath-type cleaner, McCord lubricator.

Radiator, fan, V-belts, sparkplug and magneto are enclosed in metal guards. Over-all dimension: 52- $\frac{1}{2}$ " high, 70" long, 47- $\frac{1}{4}$ " wide. Engine is first of a line of engines of this kind. Type "L."

WHITE-ROTH MACHINE CORPORATION, Dept. CP, Lorain, Ohio.

When inquiring specify CP 3169—see handy form pages 2-3

PIPE WRENCH ECONOMY

plus easy work



Only
RIDGID
pipe wrenches
give you these
5 valuable features

1) Housing guaranteed against breakage or distortion — no repair expense, ever; 2) Adjusting nut in open housing spins freely in all sizes; 3) Handy pipe scale on hookjaw; 4) Instant-action non-slip non-lock jaws; 5) Powerful comfort-grip I-beam handle. All this adds up to fast, easy work and real pipe wrench economy, too. **RIDGID** heavy-duty pipe wrenches, sizes from 6" to 60," are available at your Supply House.

RIDGID
strap wrenches are
mar polished pipe
or tubing.

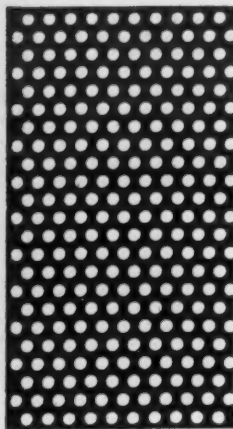
RIDGID

WORK-SAVER PIPE TOOLS
THE RIDGE TOOL COMPANY • ELYRIA, OHIO

When inquiring specify CP 3170—see handy form pages 2-3

For processing requiring

CORROSION-RESISTANT SCREENS



In many chemical processes corrosion-resistant screens are highly desirable, and for such operations Hendrick furnishes perforated plate of stainless steel, Monel, Everdur, or bronze, in any required shape and size of opening.

Hendrick also makes many types of screens for special applications, such as screens of perforated sheet lead and milled-slot screens for centrifugal dryers. Write for full information on whatever type of screen is needed for your work.



Perforated Metals
Perforated Metal Screens
Architectural Grilles
Miter Open Steel Flooring,
"Shur-Site" Treads and
Armorgrids

HENDRICK
Manufacturing Company
32 DUNDUFF STREET, CARBONDALE, PA.
Sales Offices in Principal Cities

When inquiring specify CP 3171 — see handy form pages 2-3

Production Equipment

Automatic Air Circulator Diffuses Air or Artificial Heat

Large model uses approximately same current as 150-watt bulb; dissipates smoke, odors



Automatic air circulator

natural air in warm weather, without direct draft. Used in winter, it diffuses hot air downward from ceiling, cutting fuel costs as much as 20%. Design assures even circulation to all parts of affected area. Easily and inexpensively installed without room alterations. Refreshing and healthful, increasing personal comfort and efficiency. Large model uses about the same amount of electricity as a 150-watt light bulb.

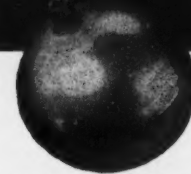
DESCRIPTION — Louver design. Thermostatically controlled. When temperature at ceiling level rises above normal, unit turns itself on. Thermostat settings

USES — Automatic air circulator for summer or winter operation. For diffusing artificial heat or circulating air in plants, laboratories and offices. Also for dissipating smoke and unpleasant odors.

FEATURES — Creates cooling, stimulating flow of

STAINLESS STEEL FLOATS

for severe service



The strength and corrosion resistance of stainless steel makes floats of this material particularly adapted to many services where ordinary floats would be short-lived. Stainless steel floats may be safely used at operating temperatures up to 800 deg. F. For more severe service, at temperatures up to 1600 deg. F., floats of stabilized 18-8 stainless steel, with Chicago Float Works stabilized weld, make the most of the exceptional corrosion resistance of this material. Spherical (ball) shape only, with standard connection fitting, or without connection. Standard sizes, 3 to 10 inch diameter.

Get complete data on stainless steel floats, as well as all other types, in our general catalog, sent upon request.

CHICAGO FLOAT WORKS, INC.

"Nothing but Floats" since 1915

2334 SOUTH WESTERN AVENUE, CHICAGO 8, ILLINOIS

When inquiring specify CP 3173 — see handy form pages 2-3



*Built up to a standard
not down to a price*

STAINLESS STEEL
(WE SPECIALIZE IN TYPE 316)
HASTELLOY
PURE NICKEL
MONEL
INCONEL

Type 316 WE SPECIALIZE IN TYPE 316
VALVES AND FITTINGS

SCREWED FITTINGS FOR IMMEDIATE DELIVERY

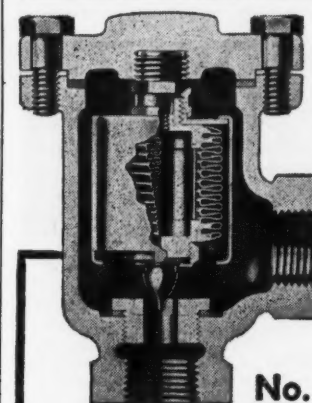
Write for Bulletins and Prices

HASCO "SUPERIOR" STAINLESS STEEL VALVES & FITTINGS

For many years Hasco "Superior" Alloy Valves and Fittings have been the choice of discriminating buyers in the Paper — Chemical — Oil and Rubber industries and in the Process industries in solving Corrosive Gas or Liquor problems.

HASCO VALVE and MACHINE CO.
1817 WEST ST. PAUL AVENUE • • MILWAUKEE 3, WISCONSIN

When inquiring specify CP 3172 . . . see information request blank, pgs. 2-3



SARCO

Thermostatic
STEAM
TRAPS

No. 9

In its latest design, this well known steam trap is twice as fast in venting air and removing condensate from steam

heated equipment. Capacity has been doubled. The low price justifies a separate trap on each coil or jacket, for highest efficiency. No seals to change when used on differing steam pressures up to the maximum for each type.

Where quick heating-up is important, the thermostatic trap is best.

Available in sizes 1/2" to 2", for pressures to 300 p.s.i. Catalog 250.

SARCO SARCO COMPANY, INC.
Empire State Bldg., New York 1, N.Y.
SAVES STEAM SARCO CANADA, LTD. TORONTO, CANADA

When inquiring specify CP 3174 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

Production Equipment

range from 55 to 85°. Simple manual control changes speed of rotating blades.

A flanged plate is bolted against ceiling, with unit suspended from plate by four coil springs for quiet, vibrationless operation. Models 110 and 220-T have 20 and 12" rotating blades, respectively. Small model is available without thermostat, if desired.

WILSTER INC., Dept. CP, 5700 Detroit Ave., Cleveland 2, Ohio.

When inquiring specify CP 3175—see handy form pages 2-3

★

Valve Is Both Check and Expansion Unit

Lets 1 compressor service 2 or more evaporators



Combination check and expansion valve

shut-down. Unit may be placed in any angular position, or where most convenient.

Use of valve is said to eliminate extra equipment in the line, and require fewer connections per installation. Simplified construction makes for easy cleaning.

Unaffected by box temperature, entering warm air or warm suction lines. Eliminates need for choosing special "charges" and "cross-charges" to assure operation in specific temperature range.

DESCRIPTION — Unit is designed to incorporate a check valve in manufacturer's TS-1 thermostatic expansion valve, thus preventing back pressure and bleeding suction vapor from high to low temperature evaporator when both are connected to one suction line.

This dual-purpose valve is no larger than TS-1 type. It is said to maintain extremely close super heat control in each unit of a group — as, for example, 5° F. super heat with plus or minus 1/2° F. for control. The thermostatic valve closes completely above a definite evaporative pressure.

Feeler bulb is eliminated. Valve responds instantly to changes in suction vapor conditions. Use of external equalizer is unnecessary, as compensation for pressure drop in evaporator or distributor is designed into valve. No stem packing is required; needly and seat design assures positive closure.

TENNEY ENGINEERING, Inc., Dept. CP, 26 Avenue B, Newark 5, N. J.

When inquiring specify CP 3176—see handy form pages 2-3

NOVEMBER, 1947

One Glance Tells You that

Only the **SIDE** of a V-Belt **TOUCHES** the Pulley



The **SIDE** Does ALL the GRIPPING That's Why it **GETS** the **WEAR**!

One glance at a V-Belt in its sheave shows you that only the sides of the belt *touch the pulley*. Every ounce of load the V-Belt carries must first be picked up by the sides. The sides do all the *gripping*—they get all the *wear* against the sheave groove wall. They pick up the load. They transmit that load to the belt as a whole. Then, once again, the sides—and the sides *alone*—grip the driven pulley and deliver the power to it.

Naturally, this explains why you have always noticed that the sidewall of the *ordinary* V-Belt is the part that *wears out first*.

★ Now See How the Patented **CONCAVE SIDE** SAVES Sidewall Wear—Lengthens Belt Life!

Because the life of a V-Belt depends, first of all, on the sidewall, it is clear that anything which prolongs the life of the sidewall will lengthen the life of the belt. The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the *middle* of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belts can possibly give.

★ Longer Sidewall Wear Is MORE IMPORTANT NOW Than Ever Before!

Now that Gates *SPECIALIZED* Research has resulted in Super V-Belts capable of carrying much heavier loads—up to 40% *higher horsepower ratings* in some cases—the sidewall of the belt is called upon to do even *more work* in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important **NOW** than ever before!

4710



The **CONCAVE SIDE** is a GATES PATENT

Straight Sided V-Belt

Fig. 1

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

Fig. 1-A

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb, and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Gates V-Belt with Patented Concave Sidewall

Fig. 2

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt is Bending Over Pulley

Fig. 2-A

No bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means more life.

THE GATES RUBBER COMPANY DENVER, U. S. A., "World's Largest Makers of V-Belts"

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks

IN ALL INDUSTRIAL CENTERS

of the U. S. and 71 Foreign Countries



When inquiring specify CP 3177 . . . see information request blank, pgs. 2-3

FarrisSeal

New FARRIS Safety Relief Valve with protecting **SEAL** for working parts

Designed particularly to withstand the severe corrosive conditions of the Petro-Chemical Industries, this valve offers full and exclusive protection against all acids and caustics normally handled on a commercial scale. Result: Long life — maximum trouble-free service — minimum maintenance — low operating cost.

Here's Why

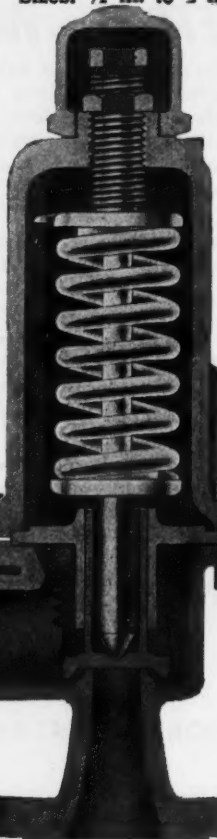
1. Haynes Stellite Co. "Hastelloy-C" body and disc is a hard, tough, corrosion resisting alloy.
2. The seal, rubber, "Neoprene" or any flexible metal — designed to withstand the action of specific acids or caustics, effectively isolates and protects all working parts.

Plus These Features

- Nozzle throat and high disc lift assure full certified capacity discharge.
- Precision alignment of the spring with the top-loaded free-acting disc guide assures positive action and tight seating.
- Long, low-stressed, protected loading spring maintains accurate set pressure.

Investigate the FarrisSeal savings.
Detailed data available on request
—without obligation.

Sizes: ½ in. to 3 in.



FARRIS ENGINEERING CORP.
406 Commercial Ave.
Palisades Park, N. J.

Farris

SAFETY and RELIEF VALVES

FARRIS keeps pace with advancing power and process engineering

When inquiring specify CP 3178 — see handy form pages 2-3

Production Equipment

Aluminum Ladder Is 2-in-1 Tool

Trestle-type unit extends to
10, 14, 18' lengths

USES — Aluminum trestle ladders for painting, cleaning, general maintenance and repair work. Also for use



Aluminum trestle ladder

with similar units in supporting stages and platforms, or one unit may be disassembled and used as two separate units.

FEATURES — Adjustable center-piece ladder removes entirely for use as a straight wall ladder, while remaining part becomes an "A" type ladder capable of supporting substantial weight.

DESCRIPTION — Unit illustrated is of 61ST aluminum alloy with tensile strength of 45,000 lbs. per sq. inch. It is available in extended lengths of 10, 14 and 18', the 18' ladder weighing 55 lbs.

ALUMINUM LADDER COMPANY,
INC., Dept. CP, 200 Carbis St., Worthington, Penna.

When inquiring specify CP 3179
— see handy form pages 2-3

★

Goggles Protect from Dust, Chemicals

Valves in nosepiece permit
breathing without fogging

USES — Rubber-frame safety goggles for hot, humid atmospheres contaminated by chemical and dust hazards. For jobs where acids and caustics must be handled.

Also for protection against chemical splashes, spray, and impact of for-

STAINLESS PROCESSING EQUIPMENT

Built to Your Own Specifications

We carry in stock for immediate fabrication an ample supply of high grade sheets of

STAINLESS STEEL MONEL METAL
ALUMINUM COPPER
NICKEL SILVER

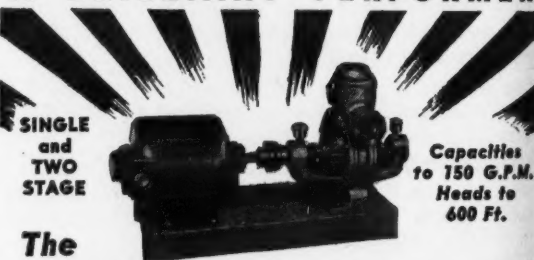
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VATS TANKS TROUGHS PANS
All-Metal and Rubber-Lined
SPECIAL STAMPINGS
COMPLETE ASSEMBLIES

THE EDWARDS MANUFACTURING CO.
743-783 Eggleston Ave. Cincinnati 2, O.

When inquiring specify CP 3180 — see handy form pages 2-3

A BRILLIANT PERFORMER



The APCO TURBINE-TYPE PUMP

APCO — is the highest development of the Turbine-Type Pump. No metal-to-metal contact — Handles NON-LUBRICATING liquids almost indefinitely without wear. Applicable for water supply, boiler feed, condensation return, circulating, transfer, booster, self priming, marine, distillery, dairy, special metals and "1001" duties. Delivers with slight change in capacity against drastic head conditions.

AURORA CENTRIFUGAL PUMPS
A complete line, notable for streamline coordination between impellers and shells, including Horizontally Split Case, Single and Two Stage, Side Suction, Vertical, Non-Clog, Sump, Mixed Flow, Deep Well Turbines, Special Design, etc.

Write for
CONDENSED
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DISTRIBUTORS IN PRINCIPAL CITIES

AURORA
PUMP COMPANY

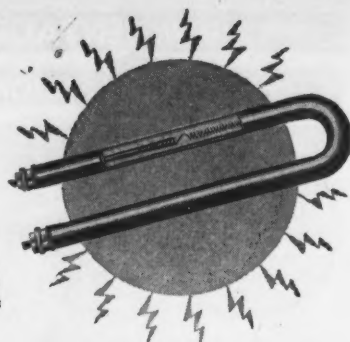
62 Loucks Street, AURORA, ILLINOIS

When inquiring specify CP 3181 — see handy form pages 2-3

CHEMICAL PROCESSING Preview

YALE

Hottest
News In
Electric
Heat!



Yes, YALE... the No. 1 name in locks... now offers an enclosed electric heating element that you know will give uniform heat. YALE's famous manufacturing controls assure:

1. uniform distribution of the refractory within the sheath for uniform insulation
2. accurately centralized location of the resistor for uniform heat transfer

Immediate shipment on Rod-Type Heating Units — first of a complete YALE line of electric heating units. Send for further information. The Yale & Towne Manufacturing Company, YALElectric Heating Unit Sales, Room 1042, Chrysler Building, New York 17, N. Y., MUrray Hill 9-6700.

YALElectric UNIFORM HEAT
THE BRIGHT SPOT IN ELECTRIC HEATING

YALE

Makers of the famous YALE lines of Locks, Hard ware, Door Closers, Hoists and Industrial Trucks

When inquiring specify CP 3182 — see handy form pages 2-3

"NATIONAL" DRYERS

FOR THE CHEMICAL INDUSTRY

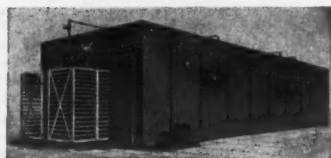
Uniform Drying at Higher Speeds



Above — New Truck Type Tray Dryer for chemicals and pharmaceuticals. Write for details of improved features.



Above — Single Conveyor Dryer for handling large quantities of chemicals, abrasives, etc. Continuous hopper feed; automatic leveler; pressure extraction.



Right — Semi-Continuous Tunnel Type Dryer. For quantity production of filter pressed chemicals and minerals.

TEST DRYERS
FOR EVERY
PURPOSE



SPECIAL DRYING
AND HEATING
EQUIPMENT

THE NATIONAL DRYING MACHINERY CO.
2709 N. HANCOCK STREET, PHILADELPHIA 33, PA.

When inquiring specify CP 3183 — see handy form pages 2-3

Production Equipment

sign particles. For exposure to fine dust concentrations.

FEATURES — Non-fogging. Wide-



Rubber-frame safety goggles

angle vision. Airtight fit, conforming to face contour, prevents acid or dust leakage.

DESCRIPTION — Nosepiece with inhalation and exhalation valve prevents fogging and steaming of large, acetate single lens. When wearer inhales, air sweeps through chamber, removing moisture on inner lens before it can fog.

When exhaling, the inlet valve closes, permitting moist air to escape through exhalation valve. Goggle frame is molded from non-irritating natural rubber. The replaceable lens is large size and curved to fit face, giving wide vision.

AMERICAN OPTICAL COMPANY, Dept. CP, Southbridge, Mass.

When inquiring specify CP 3184
— see handy form pages 2-3

★

4 to 750 rpm Power Drive Meets All Fractional hp Requirements

A general-purpose power drive with speed reduction from 4 to 750 rpm, left or right hand mounting, is described in a 4-page bulletin. For all fractional hp drive requirements, unit is shown in a number of diversified applications which include shop, mill and plant.

Listed features include universal adapter and coupling, with easy coupling to shafts. Literature includes labeled photograph of overall unit, showing component parts, and table of speed reduction range based on motor speed of 1725 rpm. Standard unit with one to two pulley changes has range of 20 to 750 rpm. An auxiliary shaft broadens speed range from 4 to 750 rpm.

THE FLINCHBAUGH COMPANY, Dept. CP, York, Penna.

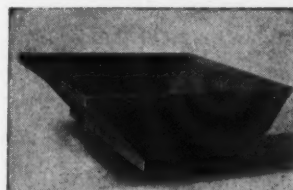
When inquiring specify CP 3185
— see handy form pages 2-3



Clean Grounds

... at HALF THE COST

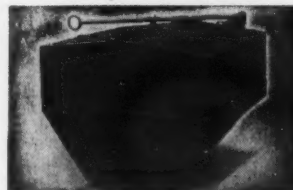
with a Brooks **LOAD LUGGER**



Standard Tilt-Type Bucket



Open-End Skip-Type Bucket



Enclosed-Type Water-Tight Bucket

Hundreds of firms are finding the Brooks Load Luger indispensable in their various loading, hauling and dumping operations. Keeping grounds clean, collecting and carrying away furnace residue, loading and hauling plant waste, transporting finished and unfinished products — in short, almost any type of materials handling is facilitated with this highly versatile system. Operates hydraulically from power take-off... is one-man controlled... needs only 15 seconds for loading or dumping.

A Brooks Load Luger installed on one of your trucks serves any number of detachable bucket bodies spotted at various loading points throughout your plant and grounds. Your loading crew keeps busy constantly loading, while the truck is constantly hauling, dumping, returning an empty bucket and picking up the next full one. And there's a bucket for every type of material whether light or heavy, liquid or dust, hot or cold. Write for catalog 1-A today.

600 DAVENPORT ROAD,
KNOXVILLE 8, TENN.

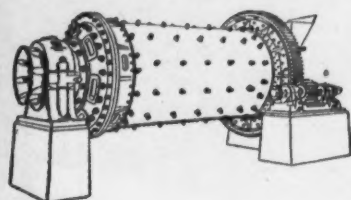
Distributors in all Principal Cities

Brooks

EQUIPMENT AND MFG. CO.

When inquiring specify CP 3186 — see handy form pages 2-3

For "Straight-Through"
Grinding . . .
HARDINGE
ROD AND TUBE MILLS



Hardinge
Conical-Ended
Rod Mill.

Write for
Bulletin 25-B.

Hardinge
Long Tube
Mill.



Write for
Bulletin 18-A.

HARDINGE
COMPANY INCORPORATED
YORK, PENNSYLVANIA — 240 Arch St. • Main Office and Works
NEW YORK 17—122 E. 42nd St. • 205 W. Wacker Drive—CHICAGO 6
SAN FRANCISCO 11—24 California St. 200 Bay St.—TORONTO 1

When inquiring specify CP 3187—see handy form pages 2-3

Production Equipment

**Valves Handle Liquid Petroleum,
Manufactured, Natural Gases**

*Sensitive swing check units are 1/2 to 6" IPS,
bronze aluminum and grey iron*



Swing check valve

Free-action check mechanism assures non-sticking on minimum flow.

DESCRIPTION — "3000 series" valves are in both screwed and flanged types, bronze aluminum and grey iron, IPS sizes 1/2 to 6". Larger sizes will be available. Additional information contained in Bulletin 3001.

POKORNEY MANUFACTURING COMPANY, Dept. CP, 3117 Clybourn Ave., Chicago, Ill.

When inquiring specify CP 3189—see handy form pages 2-3

USES — Line of super sensitive swing check valves, especially adapted for use with manufactured, natural and liquid petroleum gases.

FEATURES — Sensitivity to low flow. Full flow through valve with minimum resistance. Non-leaking through check.

**GREASY
WET
HOT**

HFN
labeling gum
is back!

Vegetable and mineral oils, olives, condiments, preserves, dairy products and mayonnaise bottles—because of the nature of their contents and methods of washing after filling—frequently reach the labeling machine greasy, wet or hot. These extreme conditions call for National's "HFN"—a specialty labeling gum that is relatively unaffected by oily surfaces, water or heat. "HFN" is non-crystallizing . . . tacky . . . short in consistency. It adheres difficult label stock to a variety of glass containers . . . provides good machinability . . . permits clean bottling. "HFN" gum—in its prewar formulation—is available for immediate delivery. Address: 268 Madison Avenue, New York. Plants: Dunellen, N. J., Chicago, Indianapolis, San Francisco.

National
ADHESIVES

National Also Produces
Adhesives for:

Bottle Labeling • Can
Labeling • Carton Sealing
• Package Wrapping •
Ice-Proof Labeling • Trans-
parent Shootings • Glued-
unit Carloading • Also
"RESYN" adhesives

EVERY TYPE OF ADHESIVE FOR EVERY INDUSTRIAL USE

When inquiring specify CP 3188—see handy form pages 2-3

**Stainless Clips Hold
Test Tubes Upright**

For sizes 3/8" to 1" diameter



Test tube rack

USES — Individual test tube racks for holding tubes upright when: 1) transferring from burette to test tube; 2) heating; 3) studying, inspecting or moving tubes about; 4) draining; 5) weighing. For holding round or flat-bottom tubes erect.

For use either as a support or as a pair of tongs. Also holds tubes upright while heating in a beaker of water or other liquid.

FEATURES — Compact and practical. May be hung in handy places around the laboratory, slipped in the coat pocket or placed handy to the balance. Prevents spillage and burns.

DESCRIPTION — Stainless steel. Each clip has three openings which retain the test tubes.

HENRY A. GARDNER LABORATORY, INC., Dept. CP, Bethesda, Md.

When inquiring specify CP 3190
— see handy form pages 2-3

HERE'S HOW CENTAUR CODE-DATES

Fletcher's

CASTORIA Bottle labels

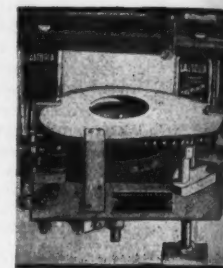
... automatically



AUTOCODER

marks as part of
labelling operation

Mothers are assured of the purity of Fletcher's Castoria by the laboratory control number imprinted on the label of every bottle. The problem of imprinting each bottle automatically as part of the labelling operation, and precisely in identical locations, was turned over to Gottscho code-dating and marking engineers. The result: a compact, efficient machine which marks bottles as they move in the labeller. Now known as AUTOCODER, the machine is available to other manufacturers who wish to code-mark labels on bottles, tins, canisters, cartons in any production operation where objects are positively held and evenly spaced. Write for details.



ADOLPH GOTTSCHO, INC. MARKING EQUIPMENT

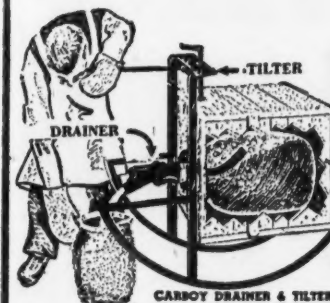
195 DUANE ST., NEW YORK 13, N.Y.

* MACHINES TO MARK WHATEVER YOU MAKE *

When inquiring specify CP 3191—see handy form pages 2-3

**SAFE HANDLING
OF CHEMICALS!**

Wahlert
SAFETY
CARBOY
DRAINER
and
TILTER



*This
CARBOY
TILTER
controls
the flow!*

Carboy Drainer
Available in 5 to
15 Gal. Sizes
1. Outside
Diameter
(1 1/4" to 2 1/2")
2. Outside
Diameter
(2 1/4" to 3")
3. Outside
Diameter
(3 1/4" to 3 1/2")
Specify Size
When Ordering

Features:

- Made of hard, acid-proof rubber.
- Soft rubber cuff permits drainer to be attached to carboys.
- All parts are replaceable.
- Prevents accidents caused by splashing and carelessness.
- Uninterrupted flow.
- Air vent eliminates pumping or syphoning.

Send for Literature, Dept. CP

WAHLERT PRODUCTS CORP
INDUSTRIAL SAFETY AND FIRE EQUIPMENT
27 LAFAYETTE ST., BROOKLYN, N. Y.

When inquiring specify CP 3192—see handy form pages 2-3

CHEMICAL PROCESSING Preview

BETTER *air conditioning*
for BETTER PROCESSING

**JUST
PRINTED**

**write
for
your
copy**

**HUM
CON**

is more important
in your plant
than you may
realize

Kathabar
HUMIDITY CONTROL

Kathabar *System of*
HUMIDITY CONTROL

Surface Combustion Corp., Toledo 1, Ohio

When inquiring specify CP 3193—see handy form pages 2-3



**INDUSTRIAL
NoDrip**

**COVER PIPES
TANKS, WALLS**

Anyone can brush, trowel or spray NoDrip on any clean, dry surface. Goes on like plaster, forms a seamless, protective coating. **STOPS CONDENSATION DRIPI!** NoDrip keeps equipment and floors safe and dry; prevents corrosion of metal and prolongs its life. Acid, alkali and brine resistant. Comes in 1, 5 and 55 gal. drums, ready for use.

TRY NoDRIPI

Apply NoDrip to a small area, compare the results with uncovered portions.

Send for free NoDrip Handbook

A. W. MORTILL CO. 530 Burch St., Kankakee, Illinois

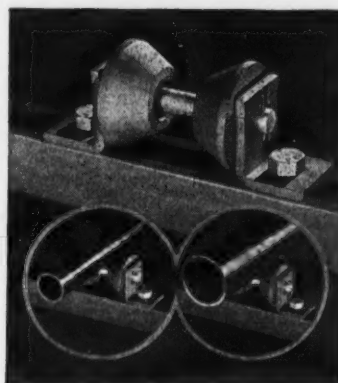
When inquiring specify CP 3194—see handy form pages 2-3

NOVEMBER, 1947

Production Equipment

**Same Roller Support Adjusts
to Pipe 1 to 12 Inches**

*Tapered rollers used with axles of varying length
meet all needs with small stock*



Roller pipe support installed in channel frame; inserts show adjustable feature

USES—These roller pipe supports permit an unusually simple installation of piping runs. Pipe in size range of from 1 to 12 inches may be supported. The roller supports are designed for mounting on Unistrut framing. The combination of these will handle pipe supporting installations to more than 7500 pounds without noticeable deformation of the

supports. (Based on physical tests in which 12 inch pipe is supported).

FEATURES—Standardization eliminates much of the problem of stocking and supplying parts for roller pipe supports to accommodate many different sizes of pipe.

Pipe from 1 to 12 inches is supported on the same tapered rollers, utilizing axles of required length. The supports and framing members eliminate the necessity for conventional screw adjustments. Great flexibility is achieved. Aligning a pipe run for definite pitch or slope can easily be done by adjustment of the framing. The system is also used advantageously in hold-down assemblies where surge of changing pressure causes "jumping effect" in pipe run.

DESCRIPTION—In this new design, the supporting rings of the conventional solid roller are separated into two distinct tapered rollers, having a slope of 30 degrees and of such diameter that pipes varying in size from 1 to 12 inches can be supported. Axles of varying lengths are used as required. The adjustable features of the roller and Unistrut frame installations eliminate the problem of predetermining hole locations to attain a pipe run of definite level or pitch. All that is necessary is to adjust the height of the horizontal supporting member, or the position of the pipe support itself, with a wrench.

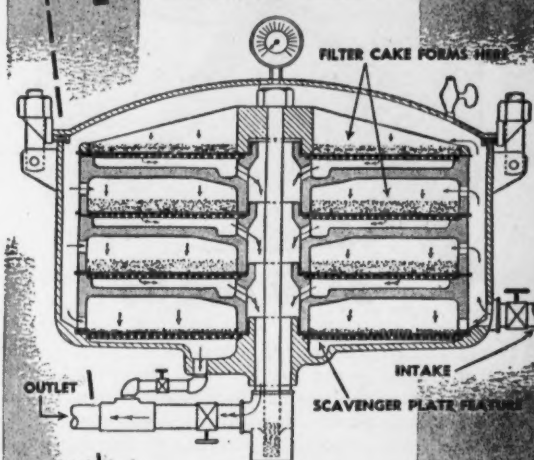
The adjustable feature of the roller supports is particularly desirable in applications in which steel pipes must have their joints welded and where insulating jackets are to be applied.

The supports have five times the strength required to carry the 7500 pounds in the tests mentioned. Spaced on 10 foot centers, supporting 12 inch pipe filled with water, they would have a load of only 1500 pounds. (Pipe weighing 100 pounds per foot and water 62.5 pounds per cubic foot.)

UNISTRUT PRODUCTS CO., Dept. CP, 1013 Washington Blvd., Chicago 7, Ill.

When inquiring specify CP 3195—see handy form pages 2-3

**the
horizontal plate
principle**



**... makes these the "filters
that filter all liquids"—**

SPARKLER
Horizontal Plate
FILTERS

... here's the story:

- Sparkler Horizontal Plate Filters handle any liquid from heavy varnishes to light alcohols, including products such as acids, oils, beverages, milk, pharmaceuticals, plating solutions, water, etc.
- Equally efficient performance on intermittent or continuous operation, under a wide range of temperature, pressure and viscosity conditions.
- Equally effective whether removing carbons and contact clays or clarifying and polishing with filter aids.
- Patented Scavenger Plate permits complete batch filtration. (It's virtually an auxiliary filter with an independent control valve.)
- Unexcelled filter cake stability — no slipping or breaking.

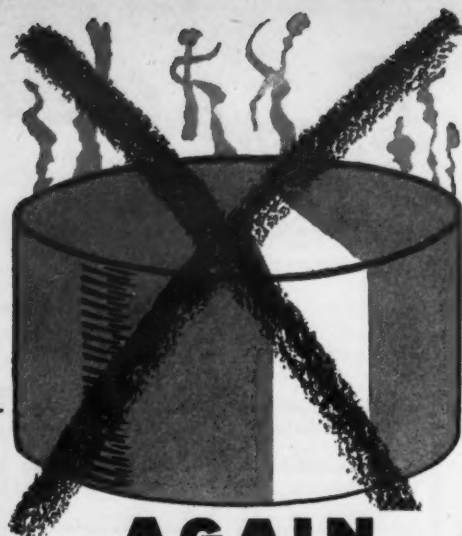
... why?

Because filter media are supported on a horizontal plane and filter aids floated into position uniformly, filtration takes place uniformly over entire filtering areas. Flow through filter is always with gravity. Sparkler Filtration Is Engineered Filtration—we invite correspondence on your problem. You will receive the advice of filtration scientists with a quarter of a century of experience in a specific field.

SPARKLER MANUFACTURING CO.
MUNDELEIN, ILLINOIS

When inquiring specify CP 3196—see handy form pages 2-3

Page 65



AGAIN... the answer is centrifuging

This is another example of how AT&M Centrifugals save time, money and space in the chemical processing field. Yet this case history represents only one of many profitable uses of centrifuging.

Whatever your processing problem, it may pay you to get a confidential cost comparison between your present method and centrifuging from an AT&M representative. Such qualified engineering experience is available to you at all times without charge or obligation.

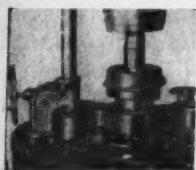
Use the coupon below for specific information on how centrifuging can give you greater savings in time, money and space.

AMERICAN TOOL AND MACHINE COMPANY, 1425 Hyde Park Ave., Boston 36, Mass., 30D Church St., New York 7, N. Y.

AN AT&M PLUS

Processors cheered when AT&M came out with the radically different *Fume-Proof Hood*.

For, this Fume-Proof Hood answered the complex problems of sealing in gases while allowing complete rotating freedom for the spindle.



SAVE TIME, SPACE AND COSTS WITH

A.T. and M. CENTRIFUGING

AMERICAN TOOL & MACHINE COMPANY
1425 Hyde Park Ave., Boston 36, Mass.

Please send information on centrifuging applied to the following processes:

- ☐ Extraction ☐ Filtration ☐ Dehydration ☐ Coating ☐ Precipitation
☐ Sedimentation ☐ Impregnation

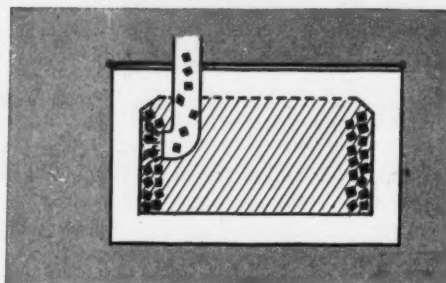
Write here any other process.....

Name.....

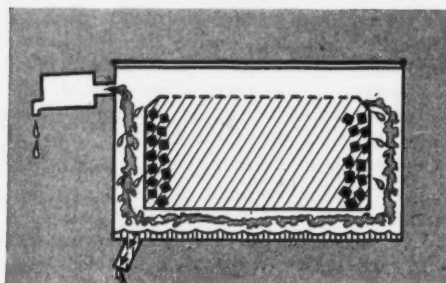
Company.....

Address.....

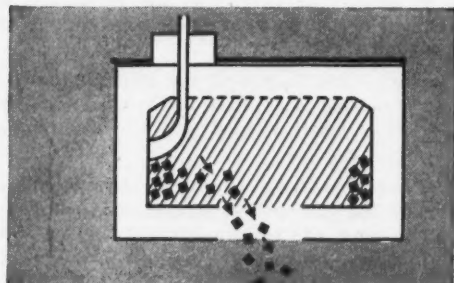
Wanted: a profitable method for quickly separating a solid from a valuable, volatile solvent without any loss through evaporation.



To separate the solid from the volatile solvent, AT&M installed a centrifugal with Fume-Proof Hood and perforate basket.



The Fume-Proof Hood routes the vaporous solvent to the condenser while centrifugal force throws the liquid solvent through the perforate basket... for 100% recovery of liquid and vaporous solvent.



The built-up cake is plowed out through the bottom of the basket.

Production Equipment

Multi-Purpose Check Valve Swings Shut Like Gate

Won't chatter. Shuts instantly. Handles oil, gas, steam, water. 2 to 8" sizes for 150-300 psi

USES — General purpose, high pressure swing check valve for oil, gas, steam, water, etc.

FEATURES — Free-flowing without knocking or chattering. This feature reduces wear and extends valve life. Instant closing.



High pressure swing check valve

DESCRIPTION — Product is termed a "vertical-swing horizontal check valve" because the "swing check" swings, like a gate, on a vertical pin mounted outside the line of flow. Hence the gate does not "float" on the liquid or gas, causing it to flutter or "chatter" against valve body.

Weight of the gate is not a factor in closing the valve. Gate is hinged on large bearings, spaced far apart. Instant closing is aided by flat, stainless steel spring mounted on back of swing gate. When flow ceases, or is reversed, the spring gives initial force to swing gate quickly into stream, closing off the flow.

Large, full-area rectangular passageways through valve assure free flowage. Valve is generally installed horizontally; however, it may be used vertically for upward flow.

Available in sizes from 2 to 8" for both 150 and 300-lb. working pressures. Bulletin 101.

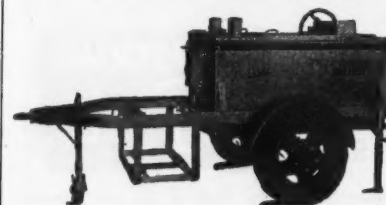
FALCON PRODUCTS, Inc., Dept. CP, Pomona, Cal.

When inquiring specify CP 3198 — see handy form pages 2-3

★

Kettle Heats, Melts Rubberized Asphalt "Joint-Sealers"

Finger-tip dial sets thermostat for required heat; burners go on and off automatically



Kettle for heating and melting rubberized asphalt joint-sealing compounds

Requires no skilled operators. Automatic finger-tip temperature control. Portable. Low operating and fuel costs.

Manufacturer reports this equipment is endorsed and recommended by leading manufacturers of new "rubber-sealer" compounds, as a result of field tests by state and federal contractors.

DESCRIPTION — Equipment employs a double-boiler heating principle to provide uniform, thermostatically-

USES — Double-vat kettle for heating and melting new rubberized asphalt joint-sealing compounds.

FEATURES — Has no engines, pumps or similar mechanical

CHEMICAL PROCESSING Preview

PRECISIONTM Industrial WATER STILLS

With the ever-growing use of delicate synthetic flavors in the candy and food processing industry, has come the demand for chemically and bacteriologically pure water — a demand that is more than justified through improved product taste — which, in the final analysis is the true builder of volume sales.

"Precision" industrial water stills are available in a wide variety of sizes and types to fit your space and production requirements. Single, double, triple distillation, heated or unheated distilled water storage tanks, automatic stop and start controls — all types of additional equipment to suit your individual needs. Year in and year out "Precision" water stills produce pure distilled water, at low cost, and little attention.

Send us your distilled water requirements, we will submit detailed proposal.

Steam-heat 250 gallon still, typical of "industrial models" used by candy and food plants, distilleries, makers of chemicals, pharmaceuticals, photo-film, etc. Automatic, dependable, efficient, easy to clean.

Precision Scientific Company

1727 CORTLAND STREET CHICAGO 47, ILL. U.S.A.
Scientific Research and Production Control Equipment

When inquiring specify CP 3199 — see handy form pages 2-3

Head-to-Toe Protection...in GOODALL Clothing, Footwear

The Goodall quality line covers every need for wearing apparel and footwear in plant and laboratory. All are made from service-tested materials, for maximum protection and wear.

COATS, JACKETS, APRONS, GLOVES

Acid, oil and chemical resisting, for plant workers and laboratory technicians. Coats and jackets are designed for roominess and comfort. "Goodseal" Synthetic Gloves are smooth, flexible, highly resistant to puncturing and snagging.



"GOODALL" Oil-Resistant Boots

Short black boots that are durable, light weight, comfortable. Made of high quality rubber, treated to resist the action of oil; with all-Neoprene sole and heel.



Other footwear includes "Toe-Saver" boots and shoes; low acid shoes; booties and rubbers in a variety of styles.

Contact Our Nearest Branch for Details.



GOODALL RUBBER CO., INC.

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia • Trenton • New York • Boston • Pittsburgh • Chicago • St. Paul • Los Angeles
San Francisco • Seattle • Salt Lake City • Houston • Factory: Trenton, N. J. • Est. 1870

When inquiring specify CP 3200 — see handy form pages 2-3

NOVEMBER, 1947

Production Equipment

controlled indirect heat. Known as Model 120-DVP, it supplies heat to the compound from within, as well as from the sides and bottom of the kettle.

To keep uniform heat at exact temperature required for the particular compound used, a valve designed for war-time use on Army bombers has been adapted to permit use of thermostatic controls on the kettle. After lighting the burners, the operator turns a knob dial to the exact temperature required. Burners automatically go on and off as heat is required to keep melted material at exact temperature necessary for best operation. Bulletin 310.

AEROIL PRODUCTS COMPANY, Dept. CP, Park Ave. at 57th St., West New York, N. J.

When inquiring specify CP 3201 — see handy form pages 2-3

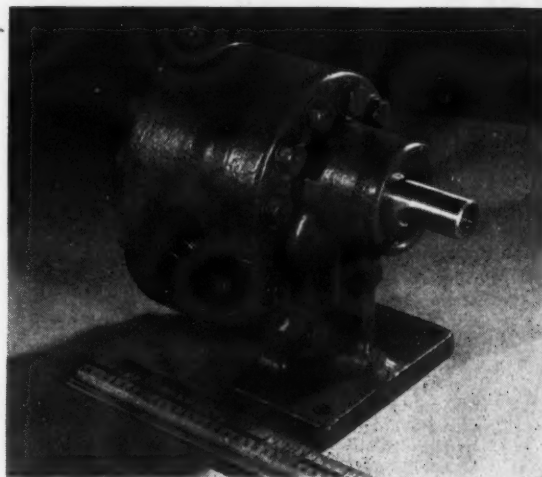
Hydraulic Gear Pumps Are Reversible, 90-92% Efficient

10, 15 and 20 gpm capacities discharge at full flow from either side

USES — "Cub" line of hydraulic gear pumps for hydraulic applications such as materials handling machinery, machine tools, etc.

FEATURES — Operate equally efficiently in either direction. Discharge can be pumped at full flow from either front or side. 100% interchangeability of parts. Continuous lubrication. Precision-built for efficiency.

DESCRIPTION — Available in 10, 15 and 20 gpm capacities. Overall efficiency rating, 90-92%. Reversible. Floating bronze wear plates at either side of gears divide clearance into four extremely narrow slits, pro-



Hydraulic gear pump

viding high frictional resistance to flow recirculation. A small, built-in valve directs slippage oil past shaft needle bearings for continuous lubrication. Rotary-type shaft seal assures long service-life without frequent attention.

Internal parts are machined to close tolerances; shafts are alloy steel, hardened and ground; cases are cast from alloy iron.

HYDRO-POWER, Inc., Dept. CP, Springfield, O.

When inquiring specify CP 3202 — see handy form pages 2-3

Steamaster Builds Boilers with

PLENTY OF GUTS!



The GUTS of the Steamaster Boiler

IF YOU
designed and built
your own boiler You'd
make sure it had
PLENTY OF GUTS.

Water Tube Design
Inclined Tubes
Sectional Steel
Headers
Longitudinal
Drum

CHECK

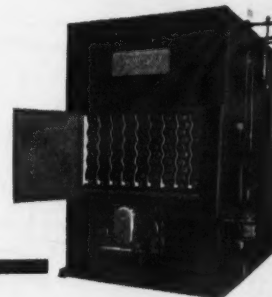
the features you'd
include if you de-
signed your own
boiler

- ☐ Water Tube Design
- ☐ Inclined Tubes
- ☐ Sectional Steel Headers
- ☐ Longitudinal Drum
- ☐ All Steel Construction
- ☐ Positive Tidal Circulation of Water — maintains all parts at equal temperature.
- ☐ Condensate Return System Built-in as an integral part of all boilers of 60 h.p. and up.
- ☐ Easy Inspection and Maintenance — every tube immediately accessible. Just open the heavily insulated access doors.
- ☐ Large Combustion Area . . . Three-Pass Heat Baffling gives high thermal efficiency.

- ☐ Choice of Fuel — Gas, Oil or Coal or any combination of these fuels to meet fuel requirements of your plant.
- ☐ Fully Equipped for Automatic Operation — with the finest accessories. As nearly automatic as a boiler can be.
- ☐ A.S.M.E. CODE — National Board Approved. Inspected and certified by Hartford Steam Boiler Inspection and Insurance Co.
- ☐ Full Range of Sizes from 10 h.p. to 300 h.p. as illustrated. The Model A for 3 1/2 h.p., 5 h.p. and 7 1/2 h.p.
- ☐ Can be Fired Over Rated Capacity and still maintain high thermal efficiency.

These Features

which you'd have in
your own boiler design
are built in all
Steamaster Boilers
from 10 horsepower to
300 horsepower. Fab-
ricated entirely in our
own factory.



Steamaster
AUTOMATIC BOILER CO.

5825 Compton Ave., Los Angeles 11, California

SALES AND SERVICE IN ALL PRINCIPAL CITIES
POWER ENGINEERS AGREE: Steamaster
is the boiler with plenty of Guts.

When inquiring specify CP 3203 — see handy form pages 2-3



For Better
Continuous
Extrusion
Takeup...

ONE COMPACT MACHINE DOES THE *Whole Job!*

That's all it takes... just *one* compact machine to perform all the functions involved in continuous extrusion takeup operations. This new constant tension continuous takeup, with integral capstan and drive, features an adjustable constant tension reel drive and an ingenious and efficient reel unloading and loading system. Other outstanding features include precision traverse mechanisms with automatic or manual crossover and a large diameter, dynamically balanced, precision machined capstan. Capstan and reel drives are hydraulically synchronized.



For complete information on this machine, and other IOI developments in continuous extrusion takeup equipment write for "Blueprint for Industry" Part IV. It's free for the asking.



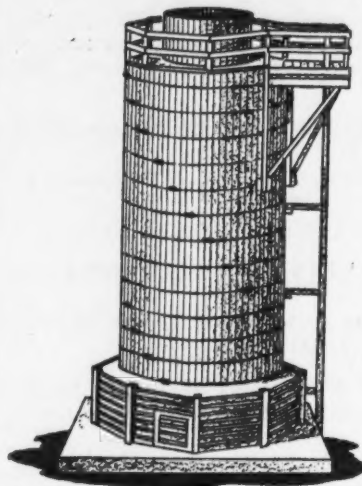
INDUSTRIAL OVENS, INC.
13925 TRISKETT ROAD CLEVELAND 11, OHIO
Associated Company: James Day Machinery Ltd., London W. 1, England

When inquiring specify CP 3204—see handy form pages 2-3

Production Equipment

Cylindrical Cooling Tower Admits Air from Any Point in 360°

Round construction eliminates dead air spaces,
reduces wind load and sub-structure stress



Cylindrical cooling tower

or diverters and assuring even distribution of air. Round construction reduces wind loads and, in turn, loads im-

USES — Cylindrical cooling tower, said by manufacturer to be the first of its kind.

FEATURES — Eliminates dead air spaces found in conventional tower designs. Prevents dead air from accumulating in corners or impairing tower efficiency. Permits air to enter tower from any point of 360° circumference, reducing need for baffles

VACUUM THE TOOL OF 100 USES

Spencer Vacuum saves time in cleaning floors, walls and overhead structures.

It reduces hazards due to dust, reclaims metals, cleans machinery, aids inspection and assembly of parts, removes soot from boilers, reduces rejects, conveys materials, and does many special jobs that cannot be done by hand.

Vacuum tools for every purpose, sizes 1 1/2 H.P. up. Ask for the bulletins.



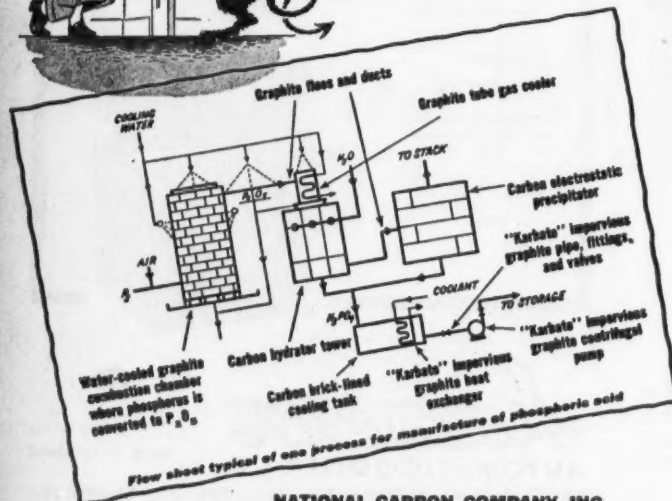
SPENCER VACUUM
HARTFORD CLEANING
THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

When inquiring specify CP 3206—see handy form pages 2-3



LOCK OUT CORROSION!

... in manufacturing phosphoric acid
... with Carbon, Graphite, and "Karbate"
Impervious Graphite



NATIONAL CARBON COMPANY, INC.
Unit of Union Carbide and Carbon Corporation

30 East 42nd Street, New York 17, N. Y.

Division Sales Offices: Atlanta, Chicago, Dallas, Kansas City, New York, Pittsburgh, San Francisco

When inquiring specify CP 3205... see information request blank, pgs. 2-3

CARBON, Graphite, and "Karbate" materials are ideal for the construction of complete systems for the manufacture of phosphoric acid and related compounds. They are unattacked by phosphorus, its oxides and acids, or by those contaminants normally encountered in the manufacture of these products.

Graphite material, because of its high thermal conductivity, is required for combustion chambers and gas coolers; but either carbon or graphite is suitable for hydrators and precipitators. Chamber and hydrator construction may be either vertical or horizontal, completely of graphite and carbon, or graphite and carbon-lined steel, depending upon individual design considerations.

Advantages of "National" Carbon, Graphite, and "Karbate" materials

No melting point • Immune to thermal shock
No metallic contamination of product
Light weight with adequate strength
Easy to machine and install

The terms "Karbate" and "National" are registered trade-marks of National Carbon Company, Inc.



Industrial Drying
IS A JOB FOR

ROSS

In practically all Industries ROSS Batch Tray or Continuous Type Dryers are a major part of the manufacturing process. Designed for steam, hot water, gas, oil, electricity or infra-red—your ROSS Dryer will use the most economical fuel, insure uniform controlled temperatures, minimum heat loss. For the "right" dryer specify a ROSS Dryer.

Modern drying methods in major industries are described in our Catalog 131. Copy on request.

ROSS J. O. ROSS
ENGINEERING CORPORATION
DESIGNERS AND BUILDERS OF AIR PROCESSING SYSTEMS
350 MADISON AVE. NEW YORK 17, N. Y.
Chicago 4, Ill. Boston 2, Mass. Detroit 2, Mich. Los Angeles 14, Cal.
ROSS ENGINEERING OF CANADA, LIMITED MONTREAL 10, P. Q.
CARRICK ROSS ENGINEERING COMPANY, LIMITED LONDON, ENGLAND

When inquiring specify CP 3207—see handy form pages 2-3

CHEMICAL PROCESSING Preview

Production Equipment

posed on supporting structures including buildings, sub-structures and concrete foundations.

DESCRIPTION — Underlying principle, design and construction is described as "entirely new." Built either in individual or multiple-cell units, of wood or steel.

Furnished either in single-wall (2" nominal) construction, or constructed in double-wall types, with inner wall of 2" nominal thickness and outer wall of 1" nominal thickness or less.

SANTA FE TANK AND TOWER COMPANY, Dept. CP, 5401 S. Boyle Ave., Los Angeles 11, Calif.

When inquiring specify CP 3208 — see handy form pages 2-3

★

Electrostatic Spraying Slashes Costs of Paint, Labor, 40 to 60%, Claim

Electrostatic painting methods, said to reduce paint and labor costs by 40 to 60%, are described in a 16-page, illustrated booklet. Photographs of more than 25 typical electrostatic spray installations, many of them with brief case histories, are included. A variety of electrostatic detearing operations are presented.

"Wrap-around" characteristics of the electrostatic coating zone are explained, showing how an even flow of atomized paint particles is distributed to all exposed exteriors of the product to be painted. Process is said to speed production, save labor and coating materials, and give consistently uniform results. One unit frequently replaces several booths, booklet states. "Ransburg Coating Processes."

HARPER J. RANSBURG COMPANY, Dept. CP, Indianapolis 7, Ind.

When inquiring specify CP 3209 — see handy form pages 2-3

★

Processor Cuts Packaging Costs 75% Using 50-lb. Multiwall Paper Bags

No. 16 of a series of 4-page case histories concerning advantages of multiwall paper bags relates how Southwark Mfg. Company, Camden, N. J., cut packaging costs 75 to 80% for whitening, a rubber filler and ingredient of putty.

Literature relates that use of 50-lb. multiwall bags reduced container costs 80 to 84%, labor costs 50%, while requiring one-third the storage space formerly used. User later adapted multiwall paper bags for packaging talc and barytes, as well. Illustrated with in-plant action-pictures. Case History No. 16.

ST. REGIS PAPER COMPANY, Dept. CP, 230 Park Ave., New York 17, N. Y.

When inquiring specify CP 3210 — see handy form pages 2-3

★

Convert Steel Drums Into Useful Storage, Conveying Containers

A combination of two tools for converting empty steel drums into useful storage and conveying containers is described in a 4-page pocket-pamphlet. Literature describes and illustrates: 1) a cutting tool for quickly and smoothly removing tops of steel drums; 2) a positive-grip clamp for lifting and moving open steel drums or other objects having a sufficiently flat gripping surface. Both tools are described as consisting of steel drop forgings. Clamp releases grip when pull is definitely released.

MERRILL BROTHERS, Dept. CP, 56-02 Arnold Ave., Maspeth, N. Y.

When inquiring specify CP 3211 — see handy form pages 2-3

NOVEMBER, 1947

**A
STAINLESS STEEL
HEX HEAD CAP SCREW**

AND — it's just one of over 1,000,000 Type 304 and Type 316 STAINLESS steel cap screws we carry ready for immediate delivery. Available in all lengths, coarse and fine threads, in diameters ranging from 1/4" to 1" inclusive. Available too, in popular sizes in Types 309; 317; 321 and 347. Also, we carry complete stocks of wood screws, machine screws, nuts, bolts, washers, cotter pins, sheet metal screws — in fact, STAINLESS fastenings of all kinds — all sizes — and in all standard analyses. Special items, to your specifications, can be produced promptly. Our twenty years of experience as manufacturers of STAINLESS fastenings is always at your service. Write today for a copy of our catalog. ANTI-CORROSIVE Metal Products Co., Inc., 52 River Road, Castleton-on-Hudson, New York.

ANTI-CORROSIVE METAL PRODUCTS CO., INC.
52 RIVER ROAD, CASTLETON-ON-HUDSON, N. Y.

When inquiring specify CP 3212 . . . see information request blank, pgs. 2-3

What FASTER and MORE UNIFORM HEAT is Doing for the Chemical Processing Industry

"Our benefits were two-fold. Drying speed on the 4 drum-dryers was increased 44% with no wet spots — time between drum 'dressings' extended from 3 days to three weeks — boiler capacity was increased with fuel saving of \$200 per month."

"We increased the capacity of our 6 Revolving Drum Dryers 63%."

"Gave us better drainage from alum ore smelters and reduced batch-time required with a splendid reduction in fuel cost."

"We increased our production 17%, with 18% less fuel."

"Our fuel consumption has been reduced nearly 30%."

These are typical results being obtained by the Cochrane C-B System of High Pressure Condensate Return for the chemical processing industry. The C-B System speeds the flow of condensate from equipment at high pressure and high temperature without flash loss and with complete elimination of entrained air. Quicker, more uniform heat with increased production and definite fuel savings are the result.

Write for a copy of Publication 3250

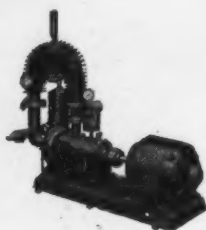
COCHRANE CORPORATION

3162 N. 17th St., Phila. 32, Pa.

COCHRANE CONDENSATE C-B BOOSTER SYSTEM

OF HIGH PRESSURE, HIGH TEMPERATURE CONDENSATE RETURN

When inquiring specify CP 3213 — see handy form pages 2-3



Production Equipment

Mitre Gear Boxes Operate Shafting for 90° Corners

Install units in any position for 1:1 hand ratio or medium speed power drives

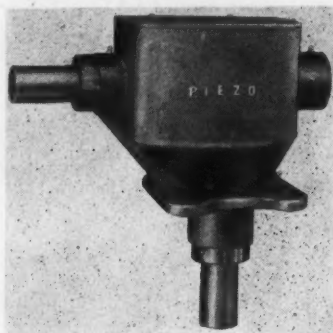


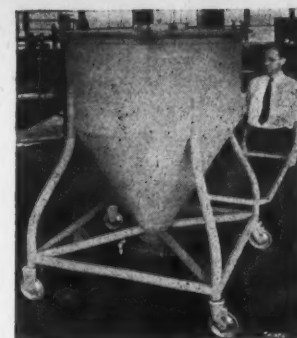
Fig. 1) Type MG mitre gear box operation, power drives of transmission equipment, etc.

FEATURES — Positive lubrication. Dirt and grit cannot clog or jam gears. Wide utility.

DESCRIPTION — Type MG (Fig. 1) has solid mounting base which simplifies installation. It may be installed in any position. Steel cut gears meet power and torque rating for each respective shaft diameter in con-

USES — Mitre gear boxes for medium speed power drives or hand operation with a 1:1 ratio. Extensively used for operating shafting around corners at 90°.

Useful for operating controls of valves, doors, steering gears, materials handling equipment, electrical apparatus, machinery



Help for that shiny nose... FROM KIRK & BLUM

Part of a large order recently supplied to a large cosmetic manufacturer, this portable hopper holds enough face powder to de-shine millions of noses . . . one more example of the versatility of Kirk & Blum engineers and mechanics . . . designers and manufacturers of fabricated metal for more than 40 years.

If you have a fabrication problem . . . think of Kirk & Blum first . . . exceptional facilities and experience may under-cut your own costs . . . release your men and machines for other work. Send prints for prompt quotation. The Kirk & Blum Mfg. Company, 2833 Spring Grove Ave., Cincinnati 25, Ohio.

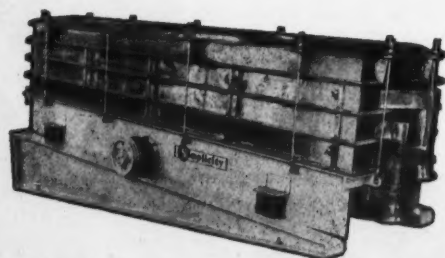
KIRK AND BLUM

When inquiring specify CP 3215 — see handy form pages 2-3

SIMPLICITY SCREENING EFFICIENCY CUTS MAINTENANCE COSTS IN LIME KILN OPERATION

Does Simplicity screening efficiency pay off? It certainly does — in many ways! In lower maintenance costs, for example. Just consider what a Simplicity screening unit has done for the lime kiln operation in the best sugar plant of the Menominee Sugar Co., Green Bay, Wis.

According to C. D. Barber, plant superintendent, abrasive grit in milk of lime caused severe wear to the rods of the juice pump. In fact, one carbonation pump had to be packed every other day. Then a Simplicity screen was installed as illustrated to screen the milk of lime leaving the slaker. Destructive grit is now almost completely removed by the Simplicity unit, and pump packing lasts at least two weeks instead of two days. In addition, the thorough screening action of the Simplicity unit has eliminated the need for settling tanks in the lime kiln.



What's your screening problem? Simplicity screens are made in a wide range of sizes and models to handle virtually every screening requirement. Send us details of your production and our engineers will show you how and where Simplicity screens will increase efficiency in your plant.

SEE US IN BOOTH NO. 601A AT THE EXPOSITION OF CHEMICAL INDUSTRIES, GRAND CENTRAL PALACE BLDG., NEW YORK CITY — WEEK OF DEC. 1. SIMPLICITY ENGINEERING CO., DURAND, MICHIGAN.



Simplicity ENGINEERING CO. DURAND, MICHIGAN

When inquiring specify CP 3214 . . . see information request blank, pgs. 2-3

EXTREMELY TOUGH—

HIGHLY RESISTANT TO ACIDS — CAUSTICS — OILS AND GREASES

Neoprene Latex INDUSTRIAL GLOVES

4 POPULAR STYLES

★ No. 5760-5, 18" LONG EXTRA LONG GAUNTLET GAUGE .030 TO .040 SIZES 10, 11

★ No. 5737-2, 14" LONG LONG GAUNTLET GAUGE .030 TO .040 SIZES 9-10-11-11½-12

★ No. 5705-5, 11" LONG SHORT GAUNTLET GAUGE .020 TO .025 SIZES 9-10-11

★ No. 5702-5, 10½" LONG LIGHT DUTY GAUGE .010 TO .012 SIZES 7-8-9-10-11

REQUEST SAMPLES AND PRICES

SEIBERLING LATEX PRODUCTS CO. AKRON, OHIO

200 - 5th Ave. Bldg., New York Merchandise Mart, Chicago

When inquiring specify CP 3216 — see handy form pages 2-3

CHEMICAL PROCESSING Preview



Is A Generation Too Long?

Neff & Fry bins serve for a generation with virtually no upkeep expense. If you wouldn't want them to stand that long, they could be dismantled and reconstructed to fit another layout.

Each stave interlocks with six surrounding ones. This makes tight, rigid joints. Steel hoops are stretched around each tier to brace the staves against internal pressure. The bin can be disassembled by removing the hoops and detaching the staves.

The stave is formed under 140 tons' pressure, giving a compressive strength of at least 5000 lbs. per sq. in.

Neff & Fry bins are erected by trained crews sent anywhere. Each job is specially engineered. Diameters and heights available as required. Ask for catalog containing full information and photos of installations.

THE NEFF & FRY CO.
CAMDEN, OHIO

NEFF & FRY STORAGE BINS

When inquiring specify CP 3217 — see handy form pages 2-3



This cut-away end of No. 251 "Shaf-tite" Wood Roll shows how beveled flanges of head are forced into end of solid wood by 150-ton hydraulic press, providing strongest possible setting of shafts. This and many other patented features make Rodney Hunt "Shaf-tite" Rolls last longer and cost less. Sizes 4"-10" diameter. Send for catalogue today.

RODNEY
HUNT

RODNEY HUNT MACHINE CO.

273 MAPLE STREET, ORANGE, MASS.

When inquiring specify CP 3218 — see handy form pages 2-3

NOVEMBER, 1947

Production Equipment

formance with engineering standards of AGMA. Furnished with bronze or roller bearings.

Hydraulic-type grease fittings assure positive bearing lubrication. Oil seals prevent leakage, maintaining proper oil level for gear lubrication. Steel shafts are

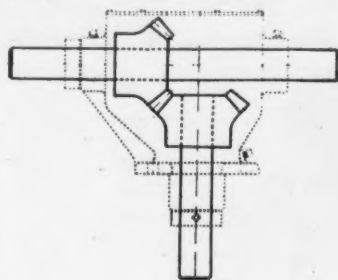


Fig. 2) Schematic drawing of Type MRX

keyed firmly to gears. In six sizes, with $\frac{1}{2}$ to $1\frac{3}{4}$ " shaft diameters.

Type MR is similar to MG in basic design, but horizontal shaft extends in opposite direction. This reverses direction of respective shafts. Type MRX (Fig. 2) combines features of both MR and MG, the horizontal shaft extending both to left and right of box.

It may be used to "cut in" on a line shaft.

PIEZO MANUFACTURING CORPORATION, Dept. CP, 110 E. 42nd St., New York 17, N. Y.

When inquiring specify CP 3219 — see handy form pages 2-3

*

Steel-Lined, Neoprene-Covered Flashlight Is All-Purpose

"Sealed-in-head" unit contains working parts; pops out for bulb, battery changing



Industrial safety flashlight

USES — Safety flashlight for industrial uses. For use around high power lines, electrical equipment, heat or cold, sunlight and weather, water, oil, gasoline, solvents, non-oxidizing and dilute acids, alkalis and salt solutions.

FEATURES — Neoprene cover is compounded to resist deterioration of many types common to processing industries. It is non-conducting, with no exposed metal parts. Approved by Underwriters' Laboratories for Class 1, Group D, hazardous locations.

Switch won't turn on accidentally. No outside sliding metal parts. Construction assures long battery life, also permits much abuse. May be submerged in water or oil without damage. All parts easily replaced.

DESCRIPTION — Steel-lined, neoprene rubber case, with one-button switch. Pressure on red rubber button turns it on or off. Pre-focused, "sealed-in-head" unit contains all working parts, and is "popped" in or out of case when changing bulb or batteries. In two or three-cell models.

LENNAN LIGHTS, INC., Dept. CP, Burbank, Calif.

When inquiring specify CP 3220 — see handy form pages 2-3

REED Jacketed VALVES

JACKETED CAST IRON

Reed Jacketed Cast Iron Valves have jackets cast integral with the body and are furnished with flanged ends only.

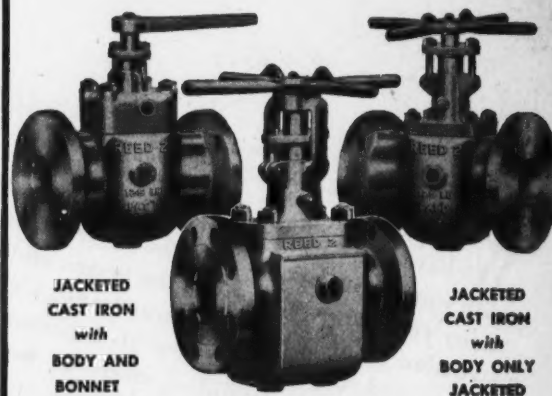
Flanges are the next nominal size larger than the valve also, that is: 1" valves have 2" end flanges, etc. All valves are F & D to A. S. A. standard dimensions.

Available only in sizes 1", 2", 3", 4" and 6". Line working pressure 125 p.s.i. at 450° F. maximum.

JACKETED STEEL

Reed Jacketed Steel Valves have fabricated jackets and can be furnished in Standard Series 150 and Standard Series 300. Flanged valves can be furnished in sizes $1\frac{1}{2}$ ", 2", 3", 4" and 6", F & D to A. S. A. standard dimensions. Screwed valves in sizes $1\frac{1}{2}$ ", 2" and 3" only.

Deep stuffing boxes assure effective sealing, and wear on the packing is minimized as the stem makes only a quarter-turn when the valve is operated.



JACKETED
CAST IRON
with
BODY AND
BONNET
JACKETED

JACKETED
CAST IRON
with
BODY ONLY
JACKETED

JACKETED STEEL

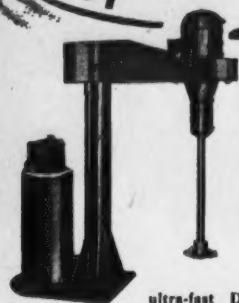
Reed
VALVE DIVISION
of the REED ROLLER BIT COMPANY

P. O. DRAWER 2119

HOUSTON 1, TEXAS

When inquiring specify CP 3221 — see handy form pages 2-3

*Dissolves or Disperses
Up to 20 Times Faster*



COWLES Ultra-Fast DISSOLVER

Years of research, practical experience and field test produced this ultra-fast Dissolver with the special-designed impeller that sets up laminar interface shear and produces particle scrubbing action.

The Cowles Dissolver is a soundly engineered machine of rugged stability, made from the finest materials, and equipped with nationally-known bearings, motors and rubber mountings. Every machine ever turned out is in active operation today.

Write for descriptive folder
... or ask for a technical
representative to call. No
obligation.

Designed to your special requirements
in dissolving or dispersing—
Liquids in liquids
Solids in liquids
Gases in liquids

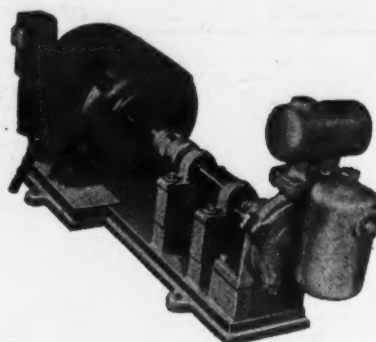
The Cowles Company
INCORPORATED
CAYUGA, N. Y.
Associate: Alexander Flock Ltd. Ottawa, Ont.

When inquiring specify CP 3222—see handy form pages 2-3

Production Equipment

Portable Pump Unloads Carboys, Drums of Corrosive Liquids

For continuous operation at 3500 or 1750 RPM



Pump Model 3/4AS-FI

USES — For unloading carboys, unloading drums; underground storage tanks; continuous processing. For many corrosion-resistant services. Meets requirements for a small capacity self priming — small capacity centrifugal — pump. Designed for continuous operation at 1750 RPM and 3500 RPM. For delivery of from 1 quart to 10 gallons per minute at heads up to 55 feet.

FEATURES — Light in weight, yet corrosion resistant through use of stainless steel 20 or acid resistant bronze.

Electric motor operation may be the solution to your valve problem

HILLS-McCANNA Saunders Patent Diaphragm Valves are now available with a choice of types of electric gear motor operation. These valves offer exceptional opportunities for remote operation since they utilize standard line currents. The unique design of the valves suits them particularly for handling acids, alkalies, slurries, air, water, gases or volatile or viscous substances.

Write for full information today. HILLS-McCANNA CO., 2370 W. Nelson St., Chicago 18, Ill.



Check THESE FEATURES

No packing—leak tight—no sticking or hunting
—no wire drawing. Sizes: 4" through 12"
Max. press 125 lbs. psi.; temp. to 180°F,
standard or, 220°F, special.

HILLS-McCANNA Diaphragm Valves

Remote operation with air and water cylinders, diaphragm motors or gear motors by manual or automatic control.

When inquiring specify CP 3224—see handy form pages 2-3

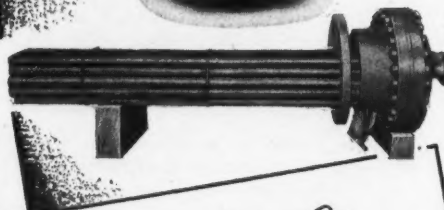
PATTERSON-KELLEY
Heat Transfer EQUIPMENT

Stainless Steel
AS WE MAKE USE OF IT

We have two experiences to offer in connection with your requirements along the above lines: (1) many years of experience in the design and construction of many types of heat transfer equipment; and (2) many years of experience in working with the stainless steels as used for such equipment.

Our engineers will be glad to work out the proper design of equipment to meet your requirements or help your engineering staff in any way if you prefer to do your own designing.

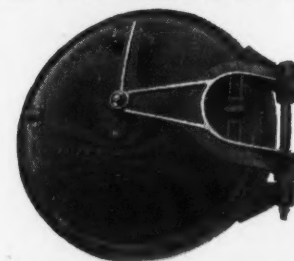
* KETTLES
* HEAT EXCHANGERS
* COOLERS
* AUTOCLAVES
* COOKERS
* CONDENSERS



EST. 1890
THE PATTERSON-KELLEY Company, Inc.
120 WARREN STREET, EAST STROUDSBURG, PA.
NEW YORK 17—101 Park Ave. PHILADELPHIA 3—1700 Walnut St.
CHICAGO 4—Railway Exch. Bldg. BOSTON 16—96-A Huntington Ave.
Representatives in Principal Cities

When inquiring specify CP 3223 . . . see information request blank, pgs. 2-3

Ⓝ SIMPLEX QUICK OPENING DOORS



for

VULCANIZERS - STERILIZERS - AUTO-CLAVES, ETC. 18 to 120 Inches Diameter



Specify Simplex Quick-Opening Doors for faster entry to vulcanizer or other vessels. One man opens and closes the Simplex Door in a few seconds. These doors are regularly made of cast carbon steel but for food and other process industries we make them in stainless or other material. All Simplex Doors meet code and Insurance requirements. Write for booklet SD.

NATIONAL-ERIE CORPORATION
ERIE, PA., U. S. A.
EXTRUDERS, STRAINERS, MILLS, PRESSES FOR RUBBER AND PLASTICS

When inquiring specify CP 3225—see handy form pages 2-3

CHEMICAL PROCESSING Preview

Production Equipment

For complete portability, pumps may, if desired, be mounted on 2-wheel dolly or 4-wheel cart.

DESCRIPTION — The series 3/4AS self-priming pump is designed on the familiar recirculation basis with several improvements. All working parts, including the impeller, shaft, bearings and couplings, have been selected for continuous operation at 3500 RPM. The pump embodies a sturdy assembly, oversize bearings, deep packing gland and little or no leakage. The bearings are 500% oversize when the pump runs at 3500 RPM. All stuffing boxes hold a minimum of 6 rings of $\frac{3}{8}$ inch packing. Pumps can be provided with lantern rings.

The series uses a $\frac{5}{8}$ inch diameter shaft, with widely spaced bearings. This reduces propeller whip to a minimum. Maximum suction lift at 3500 RPM is 12 feet.

Standard centrifugal pump (Model 13/4A-F1) is also available. Its design is the same as Model 3/4AS so that it can be converted at any time to a self-priming pump by the addition of a suction chamber and an air-separator. This is available as a sanitary pump for food processing.

PORTABLE PUMP CO., Dept. CP, Box 818 Central Station, St. Louis, Mo.

When inquiring specify CP 3226 — see handy form pages 2-3

★

Diaphragm Valves Resist Corrosion

Cast bodies handle acids, severe slurries

USES — Diaphragm-type valves for handling a wide range of corrosive solutions, and for severe slurry service.

Manufacturer recommends valves in Duriron alloy particularly for sulfuric, nitric and acetic acids in any concentration and at any temperature; and those in Durichlor for all concentrations of hydrochloric acid at temperatures below boiling.

FEATURES — No lining is necessary. Construction assures long life, even under severe service or wear. Low pressure drop through valve; flow can be in either direction. Possibility of lubricant coming in contact with solution is eliminated.

DESCRIPTION — Valve bodies are cast either in Duriron or Durichlor corrosion-resistant alloys, with ample wall thickness as added safeguard. Basic 3-unit construction consists of bonnet assembly, diaphragm and body.

Moving bonnet assembly parts are free acting, loose fitting. Units are without stuffing box or stem packing. Diaphragm completely isolates bonnet parts from the passing fluids. Of tough, resilient, reinforced molded construction, diaphragms are available in various rubber and synthetic rubber materials, separating body from operating mechanism.

Molded into the diaphragm, for attachment to compressor, is a stud which permits accurate control for throttling and operating under pressure or vacuum. Lack of recesses and grooves reduces pressure drop to minimum. Full details are contained in Bulletin 623.

THE DURIRON COMPANY, Inc., Dept. CP, Dayton 1, Ohio.

When inquiring specify CP 3227 — see handy form pages 2-3

NOVEMBER, 1947

FREE New BULLETIN On ...

processing equipment

- grinders
- mixers
- crushers
- rotary knife cutters
- supplementary equipment
- special purpose units

Sprout-Waldron
manufacturing engineers

CATALOG SCEC-4748
PRINTED IN U.S.A. 6-4M

MUNCY • PENNSYLVANIA

ILLUSTRATES and DESCRIBES EQUIPMENT for:

- (1) Size Reduction
- (2) Materials Handling
- (3) Mixing and Blending
- (4) Size Classification

Visit Us
at Chem Show
Booths 550-553

SEND FOR YOUR COPY TODAY →

TELLS how you can profit from the extensive processing data file and wealth of practical experience available through the Sprout-Waldron organization. A convenient reference bulletin for your assistance in selecting the type of equipment best suited to the job.

Eight pages jam-packed with concrete application references



Sprout-Waldron & Co., Muncy, Pennsylvania

Gentlemen: Please send me a free copy of your bulletin SCEC-4748-2.

Name _____

Title _____

Company _____

Address _____

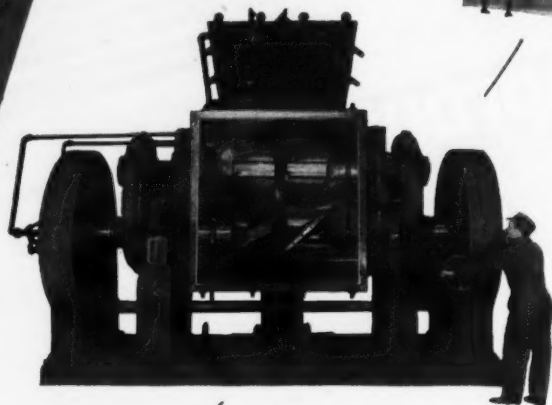
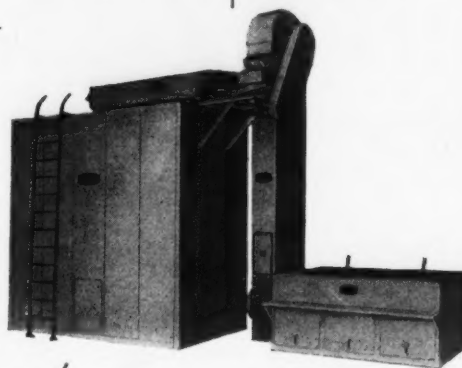
When inquiring specify CP 3228 . . . see information request blank, pgs. 2-3

LOOK for...

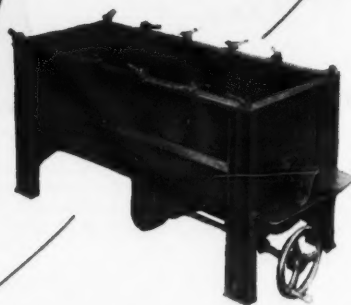


COST-CUTTING EQUIPMENT at the CHEMICAL SHOW

READCO Material Handling Equipment—Systems for complete coordinated movement of powdered or granular material. Engineered and built to fulfill your exact requirements.



READCO Single Packing Gland Double Arm Vacuum Mixers available in from 2-1/2 to 1200 gallon capacities.

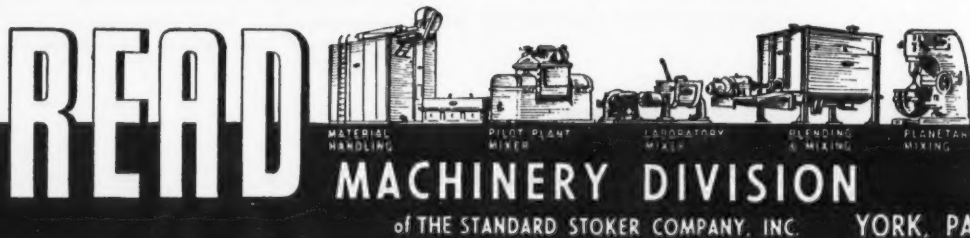


READCO Material Blenders—Equipped with double ribbon type, counter flow, welded agitator driven by gear-head motor. May be equipped with jackets for the circulation of temperature controlling medium.

Pilot Plant Blenders—furnished in working capacities from 1/8 to 3 cu. ft.

Production Blenders—furnished in working capacities of from 5 to 500 cu. ft.

**Booth No. 280
at the CHEMICAL SHOW**



READ

MACHINERY DIVISION

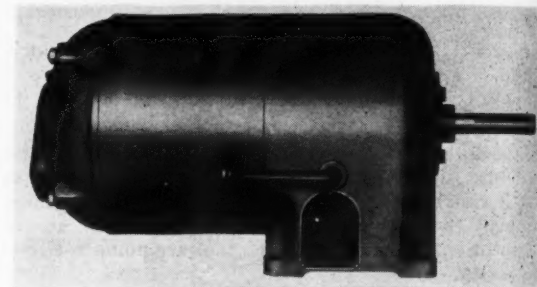
of THE STANDARD STOKER COMPANY, INC. YORK, PA.

Production Equipment

4-Speed Gearshift Drive Operates in 1/2 and 3/4 hp Range

*Unit has integrally-mounted single phase motor,
gear ratios of 1-1, 1.33-1, 2-1 and 4-1*

USES — 4-speed gearshift drive with integrally-mounted motor. For plants which are set up for single phase operations of machinery requiring selective speeds in the range of 1/2 and 3/4 hp.



4-speed gearshift drive with motor

DESCRIPTION — Available in sizes of 1/2 hp at 1200 rpm and 3/4 hp at 1800 rpm. Gear ratios of the Type "R" drive are 1 to 1, 1.33 to 1, 2 to 1 and 4 to 1.

The single phase unit operates on 115 and 230 volts AC, 50 and 60 cycle. Mechanically, the single phase and polyphase units are identical.

THE LIMA ELECTRIC MOTOR COMPANY, Dept. CP, 7096 Findlay Road, Lima, O.

When inquiring specify CP 3230 — see handy form pages 2-3

★

Forced Circulation Evaporator Concentrates to High Densities

*Small lab unit controls temperatures of heavy,
viscous, sluggish materials*

USES — Forced circulation evaporator for research work. For concentrating viscous materials to higher densities than is possible with natural circulation units. Makes possible the study of any material adapted to this type of processing.

Adaptable to materials which are subject to metal contamination. Useful in concentrating food products that are heat sensitive and require exact temperature control. Concentration of fruit juices, purees, syrups, etc., is within its scope.

For concentrating, and controlling temperatures, of materials too heavy, viscous or sluggish to be handled in a natural circulation evaporator.

Also useful for predetermining design and process controls of commercial evaporators for chemical and other process industries. Permits studies of thermodynamics encountered in evaporation processing.

DESCRIPTION — Complete instrumentation through various gauges shows prevailing interior conditions. Small holding capacity permits obtaining complete data from one or two drums of the material being tested.

CHEMICAL PROCESSING Preview

When inquiring specify CP 3229 . . . see information request blank, pgs. 2-3

LINK-BELT "CA" CONCENTRIC ACTION VIBRATING SCREEN



An Improved
Medium for the
Efficient Sizing
of Materials . . .

The "CA" Centric Action Vibrating Screen is used for both medium and heavy duty sizing of a large variety of materials, as well as for scalping and dewatering or rinsing operations. It is made in a wide range of sizes.

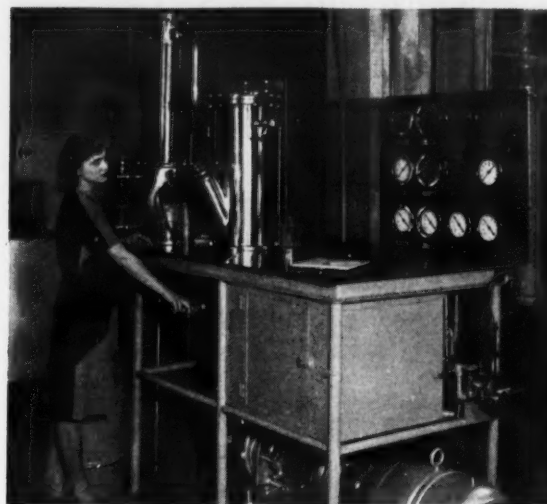
The heart of the "CA" screen is the Link-Belt two-bearing vibrator. Located near the center of gravity of the screen box, this ingenious and highly effective unit imparts a smooth, positive, circular motion to all screening surfaces. It starts and stops without "bounce," reducing shock on mechanism and frame. Write for Book No. 2154.

LINK-BELT COMPANY

2045 West Hunting Park Ave., Philadelphia 40
Offices in Principal Cities 10,793



Production Equipment



Forced circulation evaporator

Built entirely of stainless steel. Embodies latest sanitary features. One of these small pilot plants, built by manufacturer for his own use, is available for demonstration at the company's research laboratory.

BUFLOVAK EQUIPMENT, Division of Blaw-Knox Company,
Dept. CP, Buffalo 11, N. Y.

When inquiring specify CP 3233 — see handy form pages 2-3

When inquiring specify CP 3231 — see handy form pages 2-3

PROMPT DELIVERY

HERCULES Aero

(RUBBER CUSHIONED)

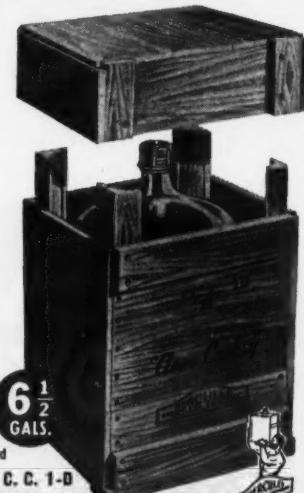
CARBOY BOXES

Specifications:

BOX SIZE:
13 3/4" x 13 3/4" x 22"
Including Hood (I.D.)

WEIGHT:
App. 26 lbs. (Box)
App. 14 lbs. (Bottle)

CARBOY:
6 1/2 Gals. capacity
(7 Gals. overflow)



Regulation Polystyrene CAP supplied
Complies with Classification I. C. C. 1-D

NATIONAL BOX & LUMBER COMPANY

HOME OF HERCULES CARBOY BOXES • NEWARK 5, N. J.

When inquiring specify CP 3232 — see handy form pages 2-3

NOVEMBER, 1947

CHEMICAL PROCESS PLANTS

Designed, Engineered, Constructed, Equipped
To Turn Out Your Product Profitably!

If you need facilities quickly, that will operate with utmost economy and efficiency, consult this seasoned staff of chemists—engineers—builders, experienced in every commercially significant process and method. Abreast of latest trends; one responsibility from plan board to the last valve.

Investigate the benefits of handling your next plant project or equipment purchase through this established firm.



CHEMICAL DIVISION • FIDELITY BLDG. • KANSAS CITY, MO.

J.F. Pritchard & Co.

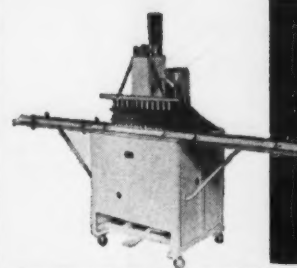
ENGINEERS • CONSTRUCTORS • MANUFACTURERS

for the CHEMICAL, PETROLEUM, GAS & POWER Industries

Offices in Key Cities Coast to Coast

Consult Sweets Files, Chemical Engineering Catalog, Refinery Catalog, ASH & VE Guide for full information.

When inquiring specify CP 3234 — see handy form pages 2-3



"ESA" MULTIPLE SPOUT VACUUM BOTTLE FILLER

EASILY ADJUSTED NO DRIP SPOUTS

ALLOWS OPERATOR USE OF BOTH HANDS

TOTALLY ENCLOSED MOTOR UNITS

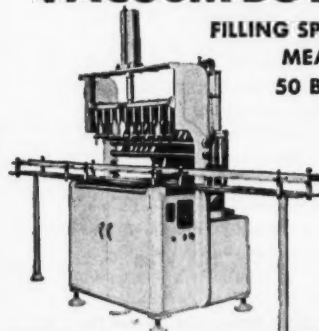
The Ertel ESA, in the low price field, is especially designed for filling small bottles—speed 50 to 80 per minute. Constructed from cast sections for sturdiness and durability, the ESA can be an integral part of any modern production line.

TWO Quality VACUUM BOTTLE FILLERS

FULLY DESCRIBED IN CATALOG-15
SENT ON REQUEST

"Pneumo-Vac" VACUUM BOTTLE FILLER

FILLING SPEED
MEASURED IN QUARTS—
50 BOTTLES PER MINUTE.

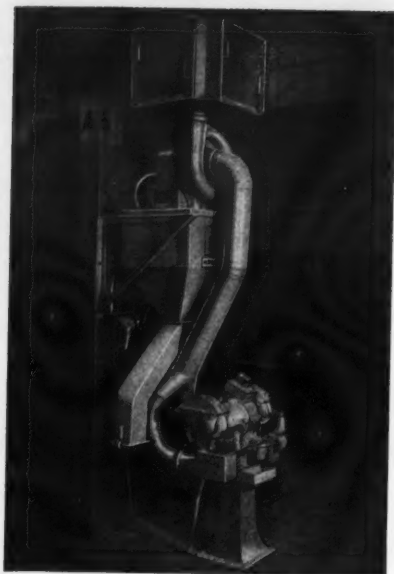


The "Pneumo-Vac" is operated by a balanced foot valve which allows the operator full use of both hands and reduces physical effort to a minimum. Dripping is positively prevented while unit is in operation. Liquid filling heights, for 3" to 13" bottles, can be quickly regulated. Illustrated "Pneumo-Vac" bulletin gives full information. Write for your copy.

ERTEL ENGINEERING CORPORATION

KINGSTON NEW YORK
NEW YORK CITY SALES OFFICE AND SHOWROOM
40 WEST 48th STREET NEW YORK 19, N. Y.

When inquiring specify CP 3235 — see handy form pages 2-3



There's Always Room For a Roto-Clone

*Modern Dust Control Equipment Designed
to Fit the Space and the Job*

ARE you denying dust control to operations such as this due to lack of space or isolated position of the machine? Roto-Clone, by combining the functions of exhausting, separating and storing of dust in a single unit, permits a flexibility of application to meet every situation.

This two wheel grinding stand, although placed in a crowded center-of-plant location, is serviced by a wall mounted type D Roto-Clone. Dust-laden air is removed at the hood, conveyed to the Roto-Clone where the dust is separated and delivered into the hopper and the air is passed through a final aftercleaner and recirculated dust-free to the workroom. A complete, compact operation utilizing unused wall space and so designed to permit disposal of collected dust at floor level.

Application of individual Roto-Clone units to single machines solves line production problems, too. Long branch runs of duct are eliminated and equipment may be moved without redesigning a central exhaust system. But whatever your needs, there's a Roto-Clone Dust Control System that will do the job more efficiently at lower cost. Write for Bulletin No. 270-A.

AMERICAN AIR FILTER CO., INC.

106 Central Ave., Louisville 8, Ky.

In Canada: Darling Bros., Ltd., Montreal, P. Q.



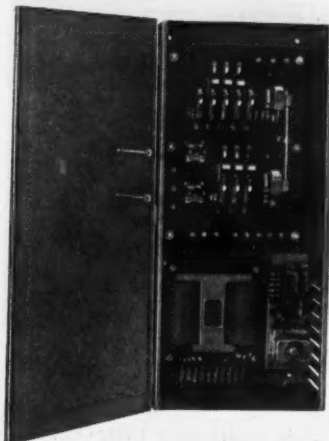
**ROTO-CLONE
DUST CONTROL EQUIPMENT**

When inquiring specify CP 3236—see handy form pages 2-3

Production Equipment

Automatically Starts "Cage" Motors Up to 100 hp Size

*Non-reversing, autotransformer-type AC unit will
reduce starting current, adjust torque*



Automatic motor starter

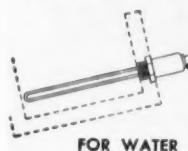
FEATURES — Complete accessibility to all line, load and control terminals, also to all individual components. Easily installed. Compact and dripproof-enclosed.

USES — Non-reversing, autotransformer-type automatic motor starters for use with single-speed two or three-phase squirrel cage induction motors driving pumps, fans, M-G sets, compressors and other equipment. Useful where in-rush starting currents must be reduced, or where motor starting torque requires adjustment.

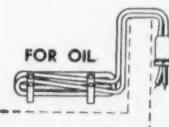
"How-to-heat" notes

#2. For Low-cost, Efficient

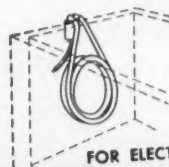
LIQUID HEATING



FOR WATER



FOR OIL



FOR ELECTROPLATING BATHS

For water, oil, electroplating baths, and many mild chemical solutions, you're almost sure to find a G-E Calrod® immersion heater to provide you the most practical and economical means of heating. Available in a wide range of sizes and ratings, and with thermostatic controls, G-E "screw-in" and "over-the-side" immersion heaters are easily adaptable to many of the low-temperature industrial tanks, kettles, and baths. You'll find these durably constructed heaters easy to install, low on maintenance, and moderately priced.

FREE BULLETIN GED-650C IS PACKED WITH HUNDREDS OF HEATING IDEAS. SEND FOR YOUR COPY TODAY. General Electric Company, Schenectady 5, N. Y.

*Reg. U.S. Pat. Off.

GENERAL ELECTRIC

When inquiring specify CP 3237—see handy form pages 2-3

THE GROEN a modern tilting kettle



**STAINLESS
STEEL
JACKETED**

Write us today for full details about this new modern tilting kettle. No obligation.

GROEN MFG. CO.

4531 W. Armitage Ave.

Chicago 39, Ill.

Note the trim simplicity of this new GROEN Worm Gear Tilting Kettle. It is modern, streamlined, handsome. Designed for fast, uniform heating. Soundly engineered for easy operation and dependable performance. Of sparkling stainless steel inside and out... and on other example of why GROEN Kettles have been favored in the chemical field for nearly fifty years.

When inquiring specify CP 3238—see handy form pages 2-3



SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
125 CENTRAL STREET • SOMERVILLE 45, MASS.

When inquiring specify CP 3239—see handy form pages 2-3

CHEMICAL PROCESSING Preview

Production Equipment

DESCRIPTION — A. C. Automatic Motor Starters are arranged in three removable sections consisting of contactor panel, timer panel and multi-tap autotransformer. Adjustable time limit acceleration, overload protection, mechanical and interlock protection, and adjustable taps on autotransformer are provided.

Suited to two-wire (low voltage release) or three-wire (low voltage protection) control. Available in standard sizes for use with squirrel cage induction motors up to and including 100 hp, 550 volts, 60 cycles. Bulletin 4051.

WARD LEONARD ELECTRIC COMPANY, Dept. CP, Mount Vernon, N. Y.

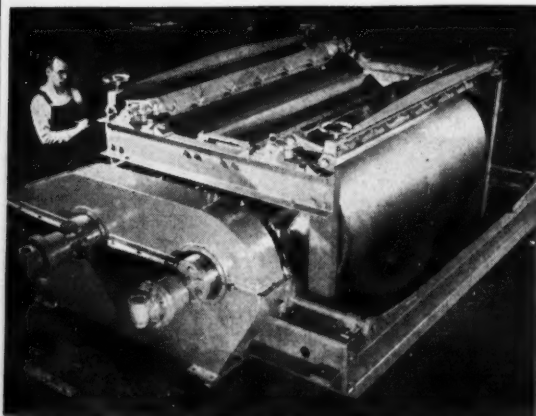
When inquiring specify CP 3240 — see handy form pages 2-3

Dries, Processes Starch Products Up to 45% Moisture Content

Combination dryer-flaker can be fitted with liquid feed to dry 80% moisture material

USES — Gelatinizing roll for drying and processing starch products containing up to 45% moisture. A combination drying and flaking machine.

Fitted with a liquid feeder for drying 80% moisture material, this equipment is used for producing dried milk, dried by-product of brewers' yeast, dried distillers' protein, baby foods and many other high-moisture-content-products requiring drying and flaking operation.



Gelatinizing roll

FEATURES — Built for unusually high bearing pressures. Roll scrapers or doctor blades are readily adjusted, easily removed for regrinding.

DESCRIPTION — Designed for steam pressures up to 225 psi gauge. Power range, 10 to 20 hp, depending on speed and bearing pressure. Rolls are 36" diameter, 84" long, operating at 5 to 20 rpm range.

Power is applied to extended roll journal and transmitted to other roll through a roller chain drive. Space between rolls is controlled by pilot wheel or ratchet wrench on each end of movable roll, with tension maintained by heavy coil springs. Roll shells are cast of special alloy metal of good wearing qualities and high coefficient of heat transfer.

ALLIS-CHALMERS MFG. COMPANY, Dept. CP, Milwaukee, Wis.

When inquiring specify CP 3241 — see handy form pages 2-3

NOVEMBER, 1947

From The Home of New Processes for American Industry

Now



FLOW-MASTER Temperer for Continuous Chemical Processing with Positive Temperature Control.



FLOW-MASTER

continuous processing with TEMPERATURE CONTROL

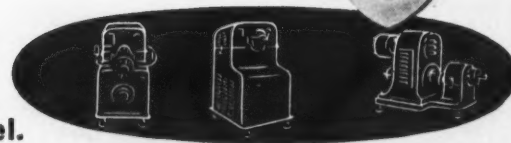
ANOTHER new Marco development, the **FLOW-MASTER** Temperer, makes it possible to disperse solids within a liquid medium, or to homogenize combinations of materials, with accurate temperature control.

The Marco Laboratories are prepared to run specific tests for chemical manufacturers who recognize the time-saving, cost-reducing, product-improving advantages of continuous processing.

Address your inquiries, with specific data as to product, present process, production required, etc., to Marco Co., Inc., 11 Third Street, Wilmington 50, Del.

FLOW-MASTER Pumps—Homogenizers
Kom-Bi-Nators
Equipment For The Process Industries

MARCO COMPANY Inc. Wilmington 50, Del.



When inquiring specify CP 3242 . . . see information request blank, pgs. 2-3

DURA PLASTIC Packings



USERS everywhere are testifying to the outstanding service performed by this general purpose semi-metallic packing. DURA PLASTIC provides improved sealing for gasoline—water—air—steam—oils and chemicals . . .

- ★ No "breaking" when formed around shafts
- ★ Remains uniform in shape under compression.
- ★ Retains resiliency throughout life of its use
- ★ Lubricated metallic shreds reduce frictional wear



WRITE TODAY FOR YOUR COPY OF FILE NO. DPCP . . . describing types and styles of metallic and semi-metallic packings to meet your specific needs.

DURAMETALLIC CORPORATION
KALAMAZOO MICHIGAN



CHICAGO • DALLAS • DETROIT • HUNTINGTON, W. VA. • HOUSTON
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BATON ROUGE, LA. • PITTSBURGH • ST. LOUIS • SALT LAKE CITY
SAN FRANCISCO • SEATTLE • TULSA • YOUNGSTOWN, O.

When inquiring specify CP 3243—see handy form pages 2-3

Production Equipment

Transparent Protective Apron Has No Cloth Stitches

10-oz. garment, washable in soap and water, has "gutter" to protect shoes from drippings



USES — Transparent plastic protective apron for protection against acids, alkalies, greases, oils and other hazards.

FEATURES — Contains no cloth stitches. Special construction protects shoes and clothing from drippings. Lightweight, permitting complete freedom of movement without hampering efficiency. Easily washable with soap and water. Neat in appearance. Furnishes maximum protection with minimum weight.

DESCRIPTION — Made of polyvinyl chloride-acetate, with heat-sealed seams and specially reinforced stress points. For added safety, it contains a special trough, or gutter, to catch drippings, thus protecting shoes and clothing.

WEST DISINFECTING COMPANY, Dept. CP, 42-16 West St., Long Island City 1, N. Y.

When inquiring specify CP 3244—see handy form pages 2-3

IF IT'S HOT WATER YOU WANT

THE JOHNSON *Instant* HEATER



● In sheer heating ability the Johnson "Instant" Heater has set the pace for many years. The illustration shows how its ingenious design routes water first inside, then outside, the steam heated chamber — secures faster, greater heat transfer for a unit of its size. Note, too, the simple, rugged construction, which eliminates any need for reducing valves; you can hook the Johnson Heater right up to your high pressure steam lines. Used for a wide variety of applications; available in complete range of sizes and capacities.

Write for new bulletin

THE
Johnson Corporation



826 WOOD ST. THREE RIVERS, MICHIGAN

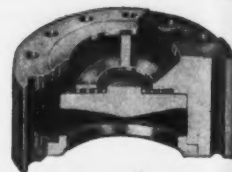
When inquiring specify CP 3245—see handy form pages 2-3

THE WILLIAMS-HAGER

flanged SILENT CHECK VALVE

with these
EXCLUSIVE FEATURES

- Rugged Design
- Removable Disc and Seat
- Renewable Disc and Seat
- Non-Wear Conical Spring
- Use in Any Position
- Real Pump Protection
- Silent in Operation
- Insurance Against Damaging Water Hammer
- Built of Material to Meet Requirements of Any Service
- Built for all Pressures



MERCHANDISE MART, CHICAGO, ILLINOIS. Largest Commercial Building in the World. Service: Fire Pump, Air Conditioning, Chilled Water.

Rugged, simple and compact, it is easily-installed between flanges and can be readily removed for inspection. The Valve Seat and Disc are renewable and the valve can be resealed without special tools. The WILLIAMS-HAGER SILENT CHECK VALVE is built of carefully selected materials to very close tolerances. It is subjected to four inspections and very exacting tests before shipment. Write for new bulletin.

THE WILLIAMS GAUGE CO.

Pump Valves . . . Water Gauges . . . Gauge Cocks . . . Steam Traps . . .
Pump Governors . . . Feed Water Regulators . . . Water Columns
2920 PENNSYLVANIA AVENUE • PITTSBURGH (12), PA.

When inquiring specify CP 3246—see handy form pages 2-3



Smooth Vibrationless
MICHIGAN
MACHINED-PITCH
PROPELLERS
for MIXING or
AGITATION

For replacement or original equipment. Perfectly balanced to avoid whip and strain on equipment. Wide range of sizes and metals in 2 and 3 blade models. Free consultative engineering service. Write for details.



MICHIGAN WHEEL CO.
GRAND RAPIDS 3, MICHIGAN

When inquiring specify CP 3247—see handy form pages 2-3

Easy-handling!



...for ANY kind of welding repair on CAST IRON

Maintenance crews are confidently tackling many jobs they'd always believed impossible.

They're saving shutdowns—and expensive repair work—by using Ni-Rod* for on-the-spot welding of broken or worn castings.

With Ni-Rod they get strong welds...sound welds...machinable welds.

Try a 5-pound package of Ni-Rod. See for yourself how easy it is to get good welds on cast iron.

Your nearest INCO Distributor has Ni-Rod in 3/32", 1/8", 5/32" and 3/16" sizes. Operates on AC or DC.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N.Y. *Reg. U. S. Pat. Off.



Write for FREE Instruction Booklet

When inquiring specify CP 3248—see handy form pages 2-3



- ✓ Heavy Duty Jacketed Kettles—Stainless Steel, Pure Nickel or Monel
- ✓ Super-Jacketed Kettles—Stainless Steel, Pure Nickel or Monel
- ✓ Storage Tanks—Plain, Jacketed or Insulated—Stainless Steel, Pure Nickel or Monel
- ✓ Plug Valves—Flush Type—Stainless Steel, Pure Nickel or Monel
- ✓ Pulp Tanks—Stainless Steel
- ✓ Agitators—Stainless Steel
- ✓ "No-Coil" Heating Tanks—Stainless Steel, Pure Nickel or Monel
- ✓ Vacuum Pans—Stainless Steel

... in Standard Sizes or designed to Specific Job Needs

ALL LEE KETTLES ARE MADE TO A. S. M. E. CODE AND CERTIFICATE FURNISHED WITH EACH JOB

LEE Metal Products Co., Inc.
418 PINE STREET . . . PHILIPSBURG, PA.

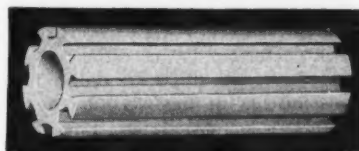
Production Equipment

Ceramic Coil Forms Aid Taps, Terminals

Dovetail grooves eliminate need for special holes

USES — Universal ceramic coil form to facilitate taps and terminals. For taking either tap lead or a spring-clip. Also for use as supporting core, or the cover, for high-wattage resistors.

FEATURES — Eliminates need for special holes to take leads or mount terminals. May be stocked in desired diameters and lengths without ordering special forms with certain holes for taps and terminals. Mounts simply in place. Provides low-loss performance and maximum stability regardless of temperature and humidity.



Universal ceramic coil form

Aids heat dissipation when used as cover for high-wattage resistors. Printed or colored tabs may be inserted in the grooves to identify part number, color code or other markings.

DESCRIPTION — Fluted Steatite coil forms with dovetail grooves which take tap lead from any part of the winding and pass it down beneath the turns to either end, or take a spring-clip which slides along the form to any point, where it is cemented in place as a terminal or tap connection.

Easily mounted by means of a metal base with turned-up prongs which fit snugly into groove-ends. For iron core tuning a cap is snapped over end of the form and tapped in the center to hold the core screw for adjusting core position relative to windings.

HENRY L. CROWLEY & COMPANY, INC., Dept. CP, West Orange, N. J.

When inquiring specify CP 3250
—see handy form pages 2-3

★

Industrial Air Hose

A new catalog section on air hose used extensively in industrial fields describes the construction and advantages of each type, outlines applications for which it is especially suited and gives data on sizes, braids and plies, pounds for 100 foot lengths, etc. Section 3460.

B. F. GOODRICH CO., Dept. CP, Akron, Ohio.

When inquiring specify CP 3251
—see handy form pages 2-3

For High Capacity



Trentweld
Large Diameter
STAINLESS STEEL TUBE
keeps your costs in line
by the foot
by the year
by the dollar



IF you have an interest in holding what cost you can to near or below per-war levels, then Trentweld engineers have facts and figures you will find worth checking against your particular problem. For example, the pictures above show only a few of the hundreds of tubes rolled for the new Champion Paper Mill at Houston, Texas. This tube is type 304 stainless, with a wall thickness of 0.078. Diameter is 10 in. and 12 in. I.D., tube lengths 8 ft. and 12 ft. These specifications assure Champion of process lines with a future free from troublesome maintenance expense.

Trentweld tube ranges in size from 1/8" to 30", is available in wall thicknesses from about 0.002 to about 3/16". It may be rolled from many types of stainless steel or Inconel—whatever best meets the needs of the application. Without obligation address Dept. 22 or send for the Trentweld data bulletin.



General Office and Mill at
East Troy, Wisconsin

TRENT TUBE MFG. CO.

District Offices
New York and Chicago

When inquiring specify CP 3252—see handy form pages 2-3

When inquiring specify CP 3249—see handy form pages 2-3

Temperature control demands
Eagle-Picher Insulations



Eagle-Picher Mineral Wool Blankets

give permanent heat-saving performance

Long service does not lower the insulating efficiency of Eagle-Picher Blankets. Their principal ingredient, Eagle-Picher Mineral Wool, does not deteriorate despite continuous exposure to temperatures up to 1200 F. This stability enables Eagle-Picher Blankets to permanently resist water, steam, moisture, corrosive fumes and normal vibration. Complete data on request.

*Let these Eagle-Picher products
also save you money... power... time*

Insulating Felts • Supertemp Block • Blankets • Loose Wool
Pipe Covering • Stalastic • Insulseal • Insulstic
Swetchek • Finishing Cements • Insulating Cements

EAGLE-PICHER INSULATIONS for



High and low temperature

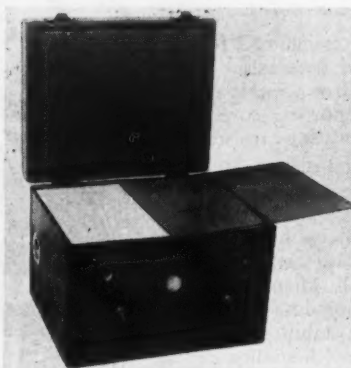
THE EAGLE-PICHER COMPANY
CINCINNATI (1), OHIO

When inquiring specify CP 3253—see handy form pages 2-3

Production Equipment

Bantam Copier Is Compact

8-1/2 x 11" copying surface handles drawings,
photographs, charts; does contact prints



Bantam model photo copier

USES — Compact, portable photo-copying machine for reproducing actual sizes of various printed matter including writing, drawings, photographs, charts, etc. For contact printing.

FEATURES — Operates in ordinary interior light, without need for dark rooms, focusing, or heating equipment. Designed for efficiency and economy. Easy to operate and requiring a minimum of effort. Eliminates possibilities of mistakes in copying.

DESCRIPTION — Electric. Operates on 115 volts, AC or DC. Copying surface is 8-1/2 x 11". Trays and dryers are optional. Bantam model.

GENERAL PHOTO PRODUCTS COMPANY, Dept. CP, General Photo Bldg., 15 Summit Ave., Chatham, N. J.

When inquiring specify CP 3254—see handy form pages 2-3

Positive Vapor Control with BS & B VENT VALVES

BS & B Vent Valves offer positive protection against excess vapor loss when storing petroleum products. Over-pressure lifts cover, allowing vapors to escape. Excessive vacuum lifts valve gasket, permitting in-breathing until normal pressure is restored.

Specifications to fit your venting requirements: Sizes 2" to 24"; Standard opening pressures, 3 to 1 1/2 oz.; Maximum opening pressures, 16 to 4 oz.; Standard opening vacuum, 1/2 oz. Bodies, Covers, Gaskets, in wide variety of metals and materials.

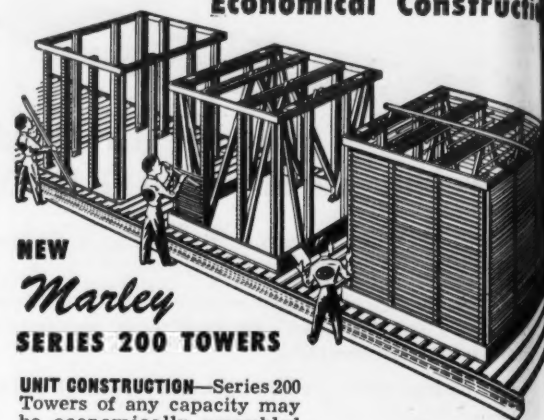


Call your nearest BS & B Sales Engineer today! Or write to Special Products Division, Black, Sivalls & Bryson, Inc., Power and Light Building, Kansas City 6, Missouri.

FOREIGN INQUIRIES INVITED
BLACK, SIVALLS & BRYSON, INC.
KANSAS CITY, MO. CASPER, WYO. OKLAHOMA CITY, OKLA. CALGARY, ALTA.

When inquiring specify CP 3255—see handy form pages 2-3

NOW THEY'RE Standardized for Volume Production Economical Construction



NEW Marley SERIES 200 TOWERS

UNIT CONSTRUCTION—Series 200 Towers of any capacity may be economically assembled from standard parts.

ADDED STRENGTH—Series 200 Towers are framed structurally complete before louver posts and louvers are added. Completely shop fabricated.

SPRACOIL COOLING—Series 200 Towers, without alteration, are adaptable for closed system cooling; utilize Marley Spracoils.

Request Bulletin 200B-47

MARLEY PATENTED
SPRAY NOZZLES are
standard equipment
in all Marley At-
mospheric Towers.



THE MARLEY COMPANY, INC. • KANSAS CITY 15, KANSAS

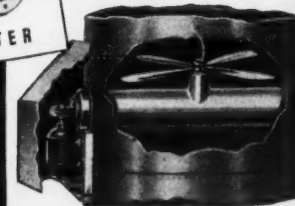
When inquiring specify CP 3256—see handy form pages 2-3

Solve your Ventilating Problems with INTERNATIONAL

DUCT BOOSTERS
STACK FANS
AND BLOWERS



DUCT BOOSTER



STACK FAN

If you have a problem of forced draft or ventilation, send for descriptive literature showing typical installations in ships and industrial plants, apartment houses and public buildings.

ASK FOR BULLETIN No. 102

INTERNATIONAL ENGINEERING INC.
DAYTON 1, OHIO.

NEW YORK, 15 PARK ROW—CHICAGO, 407 S. DEARBORN

When inquiring specify CP 3257—see handy form pages 2-3

CHEMICAL PROCESSING Preview

STOP CORROSION DAMAGE

**in Hose Lines
with REX-FLEX
Stainless Steel Hose!**

● Corrosion damage—inside and outside—to flexible hose lines can be minimized or stopped entirely with Rex-Flex Stainless Steel Metal Hose. Stainless steel resistance to high temperatures and pressures and long, useful working life are added benefits with every length of Rex-Flex. Write today for illustrated literature on the right Rex-Flex for your flexible hose needs.

SIZES: 5/16" to 6" inside diameters.

TYPES: Stainless steel, metal-braided or unbraided; Working pressures to 900 p.s.i.

COUPLINGS: Full range of sizes and types, solid or swivel.

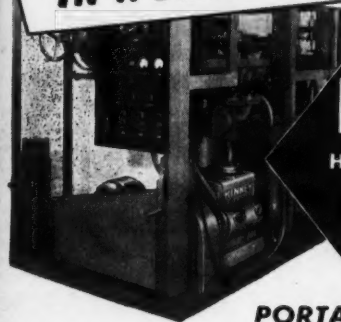
LENGTHS: To your requirements.

Typical assembly of Rex-Flex showing packless, stainless steel corrugations for high resistance to temperature, pressure and corrosion damage.

CHICAGO METAL HOSE CORPORATION
MAYWOOD, ILLINOIS
Plants: Maywood and Elgin, Ill.

When inquiring specify CP 3258—see handy form pages 2-3

**A GOOD THING
IN A SMALL PACKAGE**



**KINNEY
HIGH VACUUM
PUMP**

PORTABLE UNIT

PRODUCES EXTREMELY LOW PRESSURES

Compactly arranged within this "package unit" developed by National Research Corp., Cambridge, Mass., is a KINNEY High Vacuum Pump and auxiliary equipment—fully connected, ready for work anywhere. The compact design of the KINNEY High Vacuum Pump saves installation space—its fast pump down and low ultimate pressure reduce costs and shorten production time on countless low pressure operations. KINNEY Single Stage Vacuum Pumps produce low absolute pressures to 10 microns, Compound Pumps to 0.5 micron.

Write for Bulletin V-45.

KINNEY MANUFACTURING COMPANY
3573 WASHINGTON ST., BOSTON 30, MASS.

New York • Chicago • Philadelphia • Los Angeles • San Francisco
We also manufacture Liquid Pumps, Clutches and Bituminous Distributors.

When inquiring specify CP 3259—see handy form pages 2-3

NOVEMBER, 1947

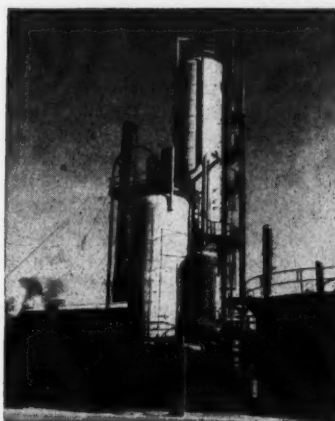
Production Equipment

**Fractionating Column,
Flash Tower, Are
Stainless-Clad**

*Operate at 100-110 psi and
600-900° F. temperatures*

USES—Stainless-clad steel plates for refinery tower construction. Illustration shows towers of this construction at Shell Oil refinery, Martinez, Cal.

DESCRIPTION — Shorter tower is 10' diameter, 30' high, and built entirely of stainless-clad plate 1-1/4" thick, using Type 405, 10% clad. Oil is expanded under pressure in this va-



Stainless-clad refinery towers
at Martinez, Calif.

porizer column, or flash column, to eliminate carbon. Column operates at pressure of 110 lbs. per sq. inch, and temperature of 900° F.

The taller tower, a fractionating column, contains bubble trays from top to bottom. It is 10' diameter, 55' high from seam to seam, and made of 7/8" plate. Upper portion is constructed of regular firebox quality plate and operates at pressure of 100 lbs. per sq. inch, and temperature of 600° F.

Bottom portion, to a height of 30', is stainless-clad plate, Type 405, 15% clad and operates at pressure of 100 lbs. per sq. inch, and temperature of 800° F.

Both columns were x-rayed and stress relieved, and were required to have a joint efficiency of 95%. Towers were fabricated by C. F. Braun Co.

Stainless steel plates were furnished by Jessop Steel Co.

JESSOP STEEL COMPANY, Dept. CP,
Washington, Penna.

When inquiring specify CP 3260
—see handy form pages 2-3

Newark **CONSIDERED
BY MANY
BEST for
PROCESSING**

Newark

METALLIC FILTER CLOTH

Newark

METALLIC BACKING CLOTH

Newark

METALLIC CENTRIFUGAL CLOTH

If you are looking for an accurate, durable metallic cloth for your filtering requirements come to Newark. For this is a "brand name" of wire cloth designed to stand-up under heavy duty processing service.

And it's available in the finest of meshes, in metals such as aluminum, brass, phosphor bronze, Monel, nichrome, nickel, stainless steel, gold, silver, or platinum; all firmly and uniformly woven from carefully selected and annealed wire.

**Newark Wire Cloth
COMPANY**

336 VERONA AVENUE • NEWARK 4, N. J.

When inquiring specify CP 3261—see handy form pages 2-3

EASIER, FASTER, CHEAPER, SAFER... DRUM, BARREL HANDLING With a **SABIN ONE-MAN TRUCK**

HERE IS YOUR OPPORTUNITY TO CUT COSTS. One man with a Sabin One-Man Truck can easily do the lifting himself, that formerly called for two or three helpers. He simply runs truck up to container, hooks on at top—and an easy pull on the handle automatically loads weights up to 900 pounds. Roller bearings make travel easy.

EXCLUSIVE THIRD-WHEEL FEATURE insures dependable load support, better balance, and safety. Enables loaded truck to stand alone.

Write for Bulletin No. 45

The Sabin Machine Co.

6534 Carnegie Ave.
CLEVELAND 3, OHIO



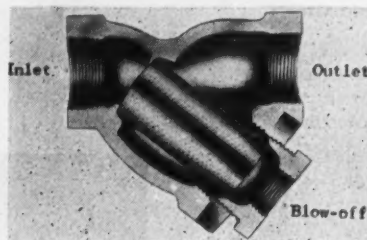
ALSO TOTE PAN, BOX, CARBOY, KEG TRUCKS!

When inquiring specify CP 3262—see handy form pages 2-3

Production Equipment

Y-Type Strainers Handle Steam, Air, Gas, Oil and Water

Are suited to steam at 250 psi, temperatures to 450° F.; rate 400 psi for cold liquid, gas lines



Y-type strainer

USES — Y-type strainer for steam, air, gas, oil or water.

FEATURES — self-cleaning without shutting off line or removing strainer elements. Design and construction largely overcome back pressure.

DESCRIPTION — Suitable for working steam pressures up to 250 psi and temperatures up to 450° F. Pressure rating for use on cold liquid or gas lines is reported to be 400 psi. Arrangement of interior surfaces, guiding liquids or gases on a course unobstructed by sharp corners or abrupt changes in path of flow, greatly overcomes back pressure.

Opening the blow-off cock flushes grit and dirt from strainer by line pressure, during operation. Use of any of several types of strainer elements regularly furnished with strainer body prevents fine particles of dirt and

NIAGARA Aero Cooling Does It Better! And Saves Cooling Water Costs

Close Temperature Control in Cooling Fluids

NIAGARA Aero Heat Exchanger cools liquids or gases to 10° of atmospheric wet bulb temperature and holds to tolerances of 2° F.

Compressed Air After Cooling

Furnishes drier compressed air—eliminates half the moisture allowed by conventional after-cooling methods.

Holding Quenching Baths to Temperature

Heat treaters increase production, improve quality, decrease rejections by using NIAGARA Aero Heat Exchanger to control quenching bath temperatures.

Condensing Refrigerant Gases

NIAGARA Aero-Pass Condenser increases refrigerating plant capacity, saves power. Duo-Pass prevents scaling and clogging of condenser. "Oilout" cleans the oil out of the refrigerating system.

NIAGARA AERO HEAT EXCHANGER is used in liquid cooling in industrial and chemical processes, water jacket cooling, hydraulic fluid, transformer oil, lubricating and cutting oil cooling, vapor and steam condensing.

NIAGARA BLOWER COMPANY

Over 30 Years of Service in Industrial Air Engineering

Dept. CP-117 405 Lexington Ave., New York 17, N.Y.

Field Engineering Offices in Principal Cities

When inquiring specify CP 3264—see handy form pages 2-3



SYNTRON

"Vibra-Flow"

DRY FEEDER MACHINES

with vibrated, non-arching hoppers, for the

CONTROLLED FEEDING

of dry, bulk materials to processing machinery.

Complete units, ready for operation, having a vibrator on the supply hopper to assure a constant supply of material to the vibrating feeder.

Variable control permits regulation of feed from a trickling dribble to a gushing torrent.

Write for catalog data.

SYNTRON CO.

110 Lexington, Homer City, Pa.

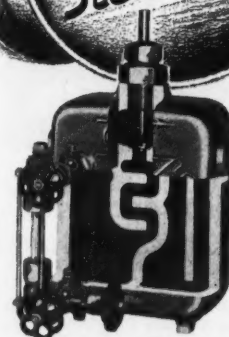


When inquiring specify CP 3263 . . . see information request blank, pgs. 2-3



the NEXT TIME
YOU ORDER

for these GOOD
SOLID REASONS



1. Coe Drainators incorporate NO MOVING PARTS in their construction which could wear and require replacement.

2. Air binding is eliminated as large volumes of air and non-condensable gases pass through Drainators with the condensate.

3. Visible indication of Drainator's operation is afforded in the gauge glass.

4. There is no variation in heat transfer as Drainator's continuous operation prevents the accumulation of condensate and air. Consistent high efficiency is maintained.

5. Drainator installations use simple "straight-through" piping. No by-pass or extra fittings are required.

Write for Bulletin 903-B

The COE MANUFACTURING CO.
503 BANK STREET • PAINESVILLE, OHIO

DRAINATOR • THE ADVANCED STEAM TRAP

When inquiring specify CP 3265—see handy form pages 2-3

CHEMICAL PROCESSING Preview

More Firms Pick Nicholson
... Added Evidence that

It Pays to Standardize on Nicholson Traps

Two of America's largest process industries are the latest to join the list of manufacturers who have standardized on Nicholson Steam Traps for specified applications.

Some of the broader advantages of Nicholson traps are: Simplicity of design. Unequalled fast action. 2 to 5 times average drainage capacity.

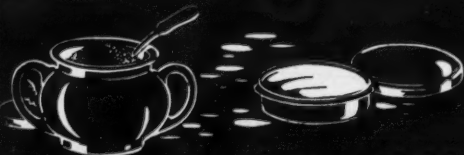
Ruggedness. Low cost. For unit trapping. Complete line — a steam trap for every process, heat, power application. Size 1/4" to 2"; pressure to 225 lbs. Let your Nicholson sales-engineer furnish further details. Catalog 444.

W. H. NICHOLSON & CO.

181 Oregon St., Wilkes-Barre, Pa.
Valves . Traps . Steam Specialties

When inquiring specify CP 3266 — see handy form pages 2-3

From sugar



to shoe polish!

Sperry-FILTER BASES IMPROVE PRODUCTION EFFICIENCY

In a wide range of industries where filtration is a part of the process...sugar or shoe polish, for instance... Sperry Filter Bases have proved their efficiency.

In more than a half-century of filtration experience, Sperry engineers have developed a great variety of filter papers, filter cloths, filter bases of glass, wool, asbestos, vinyon, rubber and woven metals...stainless steel, monel and other materials...as well as special bases to meet unusual requirements.

The ability to analyze your filtration problem and to furnish a filter base to meet your requirements is available at Sperry. Call on Sperry today. There's no obligation and there's a good chance your production efficiency will be improved.

FILTER BASE DIVISION OF

D. R. SPERRY & COMPANY
BATAVIA, ILLINOIS

When inquiring specify CP 3267 — see handy form pages 2-3

NOVEMBER, 1947

Production Equipment

scale from passing into steam traps, pressure reducing valves and other sensitive line equipment.

Free hole area of screen element in strainer body is from two to four times the area of the pipe connection, depending on service for which the strainer is used, and size of the strainer.

WRIGHT-AUSTIN COMPANY, Dept. CP, 315 W. Woodbridge St., Detroit 26, Mich.

When inquiring specify CP 3268 — see handy form pages 2-3

★

Combustion Chamber Is Stainless Steel

*Multiplies utility and service life of
direct-fired heater*



Stainless steel combustion chamber

For example, suspended heaters may be located in roof trusses, either vertically or horizontally, depending on head room. Longer service life is also said to result from use of stainless steel, with resulting higher efficiency.

Coverage of wide floor areas without use of ducts is reported, and recirculation of air at working levels is said to assure maximum worker comfort plus minimized heat losses through roof.

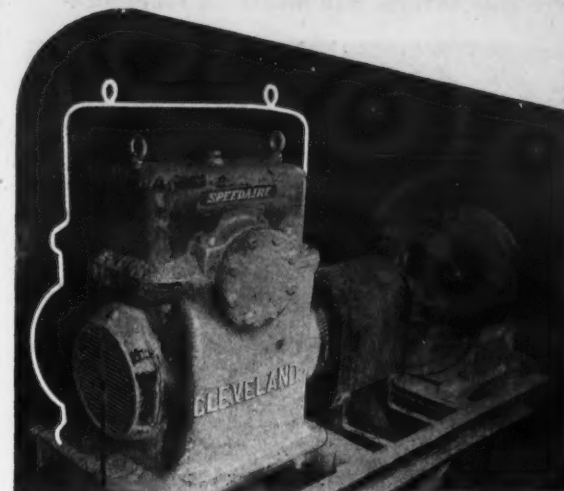
DESCRIPTION — Warm air is discharged horizontally over floor from above workers' heads at a flow rate of about 2000' per minute. Flow rate of returning air, coming from all directions, is said to be low, without appreciable draft even a few feet from heater.

Installation requires only fuel line, power line and vent stack, and can be done so as to utilize gas or oil fuel with ready conversion from one to the other.

Eight sizes range from 400,000 to 2 million BTU's per hr. Of same basic design, with all modern safety devices, dimensions of models range from 2', 7" wide, 4', 11" long and 8', 1" high to 4', 9" wide, 9', 5" long and 12', 9" high.

DRAVO CORPORATION, Dept. CP, 4801 Neville Island, Pittsburgh 25, Penna.

When inquiring specify CP 3269 — see handy form pages 2-3



As the white outline indicates, a standard unit of much greater frame size would be required to do the work of Speedaire.

Calcimine can't slow up

SPEEDAIRE

DUST accumulates quickly on everything in this New Jersey Calcimine plant, but it does not impair Speedaire's capacity or efficiency. Speedaire was selected for this job, over a conventional worm gear drive, first, because Speedaire's powerful fan keeps the internal surfaces clean and cool, and second because of the saving in space, weight and cost. The money saved was \$117.00.

Speedaire is Cleveland's new fan-cooled worm-gear speed reducer. Because it is fan-cooled, Speedaire will do more work—will deliver up to *double the horsepower* of standard worm units of equal frame size, at usual motor speeds. It can be installed economically on many applications where other types have been used heretofore—giving you the advantage of a compact right-angle drive. Speedaire gives the same long, trouble-free service characteristic of all Clevalands.

For full description, send for Catalog 300. The Cleveland Worm & Gear Co., 3257 East 80th Street, Cleveland 4, O.

Affiliate: The Farsal Corporation, Centralized Systems of Lubrication. In Canada: Peacock Brothers Limited.



CLEVELAND
Worm Gear
Speed Reducers

When inquiring specify CP 3270 — see handy form pages 2-3

For Fuel Savings and Maximum Production!



Check Your Equipment Temperatures!

IF TEMPERATURES are below normal you are losing money in two ways:

1. You are losing production because it takes improperly heated equipment longer to do the work.

2. You are wasting fuel because low production means longer hours for non-productive radiation losses from steam supply and return lines.

Faulty trapping is a common cause of low temperatures. Armstrong Steam Traps have corrected this waste in hundreds of plants because they remove condensate just as fast as it accumulates, thereby letting steam into the equipment to keep it hot. Equally important, Armstrong traps discharge air along with the condensate. Air, always present in steam, reduces steam temperatures and heat transfer rates. Send for the Armstrong Steam Trap Book for complete data on selection, installation and maintenance. **ARMSTRONG MACHINE WORKS**, 880 Maple Street, Three Rivers, Michigan.

PROOF That Armstrong Traps Pay Dividends

20% REDUCTION in heating-up time of corrugating and pasting machines since installing thirty Armstrong No. 211 traps.—*Toronto Container Gair Co., Toronto, Ontario.*

HEATING-UP TIME of cross-circulating lumber kiln cut in half after putting individual traps on each pipe coil.—*Riverdale Millwork Co., Chicago, Ill.*

30% CUT in time required to bring 240 gallon jacketed kettles in canning plant to boil since equipping each with an Armstrong Trap.—*Bulman's Ltd., Vernon, B. C.*

No. 1 of a series of advertisements devoted to improving efficiency through better trapping.



ARMSTRONG *Inverted Bucket* **STEAM TRAPS**
Over a Million in Use

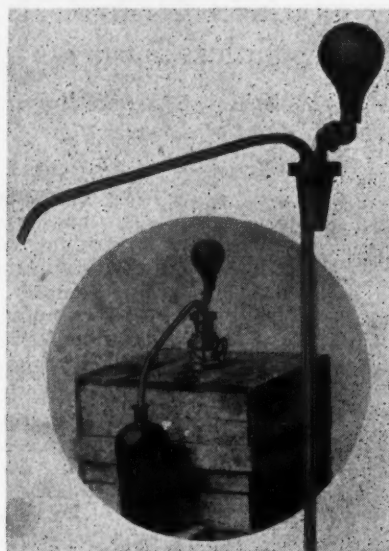
When inquiring specify CP 3271—see handy form pages 2-3

Production Equipment

Acid Pump Is Hand or Foot-Operated with Safety

Transfers sulfuric, hydrochloric, nitric, acetic acids, peroxide, from drum to container

USES — Manually-operated acid pump for transferring corrosive and other liquids from carboys, drums and barrels to smaller containers. For handling sulphuric, hydrochloric, hydrofluoric, also nitric, phosphoric, acetic acids, peroxide, many other liquids.



Manually-operated acid pump

For use in factory, laboratory, plating room, or wherever acids are handled in small measure.

FEATURES — Corrosives and other liquids flow smoothly, stop instantly. Acid drains completely when pump is removed. It is unnecessary to tip container: hence, danger of slips, splashes and spills is reduced to minimum. Safe, clean and economical.

DESCRIPTION — Supplied in hand or foot-operated models. Either type may be equipped with lead tube for sulphuric, hydrofluoric or hydrochloric acid; or flexible plastic Saran tube for nitric, phosphoric, acetic acids, peroxide, other liquids. Special tube lengths are available.

GENERAL SCIENTIFIC EQUIPMENT COMPANY, Dept. CP, 2710 W. Huntingdon St., Philadelphia 32, Penna.

When inquiring specify CP 3272—see handy form pages 2-3

★

Line of Processing Equipment Includes Grinders, Mixers, Crushers, Cutters

Processing equipment is presented in an 8-page catalog. Literature covers grinders, mixers, crushers, rotary knife cutters, supplementary equipment and special purpose units. Fully illustrated.

Equipment is conveniently grouped under four subject headings: size reduction, mixing and blending, pelletizing, supplementary equipment and materials handling. Catalog SCEC.

SPROUT, WALDRON & COMPANY, Dept. CP, Muncy, Penna.

When inquiring specify CP 3273—see handy form pages 2-3

"Roller-type" JAR MILLS



"U.S." roller-type Jar Mills are tops for low cost grinding or mixing. No clamping into frames. Set the jar on the rubber rollers—and let it roll. Standard sizes will accommodate one, two, three or four, 1, 1½, or 2 gallon size jars. Revolving speed about 50 RPM. Illustration shows Fig. 296-C, Cabinet style Jar Mill. Write for catalog 256.

U. S. STONEWARE

Process Equipment Division
AKRON 9, OHIO

When inquiring specify CP 3274—see handy form pages 2-3

F M C the "Buy-word" for Equipment

"FIRST" is the first to sell at lower prices. Our guaranteed rebuilt and good used equipment provides you with strong shackles to hold down rising costs of production.

- 12 COLLOID MILLS
Eppenbach, Charlotte, Bartlett and Snow, others.
- 5 VACUUM SHELF DRYERS
Bullfinch and Devine
- 4 DOUBLE DRUM DRYERS
27" x 63", 30" x 60" with accessories.
- 25 COMMINUTING MACHINES
Fitzpatrick, Model "D".
- 30 TABLET MACHINES
Colton 3 DT, Stokes Rotary D4, Stokes R, Colton 5½, Colton Rotary 10-35 Models.
- 25 HEAVY DUTY MIXERS
100 gal. jacketed Double Arm.
Screw Tilt Geared Both Ends.
- 12 VACUUM STILLS
Copper, Aluminum, Steel Jacketed or Coil Heated.
- PACKAGING EQUIPMENT, FILLS, LABELERS, WRAPPERS.
- STEAM JACKETED KETTLES and TANKS
Stainless, Copper, Iron and Steel. Some with Agitators.

FIRST MACHINERY CORP.

157 HUDSON STREET, NEW YORK 13, N.Y.

When inquiring specify CP 3275—see handy form pages 2-3

CHEMICAL PROCESSING Preview

NEW DEVELOPMENTS to be seen at the CHEMICAL EXPOSITION—A Preview

Continued from page 12

Burling Instrument Co., Newark, N. J.

TEMPERATURE CONTROL

For controlling temperature of processing equipment. Operates on principle of differential expansion of solids. Tube $\frac{1}{2}$ inch O. D.

*

Carbide & Carbon Chemicals Corp., New York, N. Y.

DIISOBUTYL KETONE

New Organosol dispersant; solvent for lacquers and finishes; chemical intermediate. For metal coatings; plasticized coatings for cloth, paper.

SIZING, BINDING AGENT

"Carbowax Compound PF-45" is for textile, ceramic, adhesive industries for use in sizing, lubricant, casting applications.

*

METHOXY POLYETHYLENE GLYCOLS

Series of three: No. 350, No. 550 and No. 750, the first slightly viscous, others wax-like solids. Form fatty acid esters useful as detergents, emulsifying and dispersing agents. Permit preparation of essentially pure mono fatty acid esters.

*

The Carpenter Steel Co., Union, N. J.

FLEXIBLE STAINLESS STEEL HOSE

Use of this product for intricate connections between fluid lines, or where vibration is encountered between two rigidly-held units, will be emphasized.

*

Commercial Solvents Corp., New York, N. Y.

BENZENE HEXACHLORIDE (Insecticide additive)

Will reveal effectiveness as stomach poison, contact poison and fumigant against most agricultural, horticultural insect pests. USD of A tests show promise of destroying cotton boll-weevil.

*

The Cooper Alloy Foundry Co., Hillside, N. J.

MATCH PLATE PATTERN EQUIPMENT

Presentation will cover cost-saving features of plastic patterns.

*

Corning Glass Works, Corning, N. Y.

PYREX GLASS PIPE

Display will show handling of corrosive materials and demonstrate thermal endurance, visual inspection of product and ease of installation.

The Cornell Machine Co., New York, N. Y.

VERSATORS & COLD GREASE HOMOGENIZERS

Will exhibit these multi-purpose units as applied to homogenizing, emulsifying and blending; deaerating and dehydrating (in vacuo); gassing (under pressure); distilling (residuals), and for using light or viscous liquids and flowable pastes.

*

The Cowles Co., Cayuga, N. Y.

DISSOLVERS

Stationary and portable tank-type dissolvers for dissolving and dispersion problems will be shown. Stationary designs are for 100, 250 and 500 gallons.

*

Crane Co., Chicago, Ill.

CORROSION-RESISTANT PLUG GATE VALVE

Exhibit will feature full line of these valves for throttling and full-flow operation. Designed to take place of both gate and globe valves in sizes 2" and under in installations handling corrosive fluids.

*

The Dorr Co., Inc., New York, N. Y.

PROCESSING SYSTEMS

New processing systems featured will include the FluoSolids System for continuous solid-gases reaction in a fluidized reaction bed; the Duo-Clarifier and Duo-Filter for compact biological treatment of industrial wastes; heavier models of Thickeners and Hydro-separators for large tonnage, severe industrial applications.

*

The Duriron Co., Inc., Dayton, Ohio

DIAPHRAGM VALVES & HEAT EXCHANGERS

Will show Durco Diaphragm Valve (Hill-McCanna Saunders Patent), made in the alloys Duriron and Durichlor, both corrosion resistant. With bodies cast in these alloys no lining, which might become loose or chip, is needed. Duriron construction is also a feature of this company's heat exchangers.

*

Eastern Industries, Inc., New Haven, Conn.

STAINLESS STEEL PUMPS

These pumps (series VW) handle non-lubricating or corrosive liquids when suction is required on pressures higher than for standard centrifugal pumps — for instance, in emptying carboys.

*

Eclipse Engineering Co., Rockford, Ill.

DOWTHERM VAPORIZER

Small compact unit, complete in one package, requires no field erection for use in varnish making, asphalt melting, resin manufacture, etc.

*

Economic Machinery Co., Worcester, Mass.

TURRET LABELER

Fully automatic machine will be shown in actual



Five Verti-Stacks remove 126 tons of water vapor every 24 hours at American Box Board Company, Grand Rapids, Michigan. Working around the clock, these sturdy ventilators have served more than ten years without a failure. "Best boost to production we ever made," says Plant Engineer Ira P. Nicole.

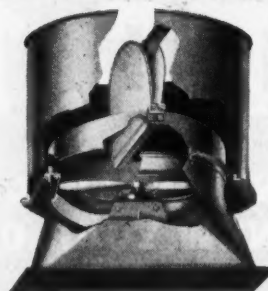
VERTI-STACKS HELP KEEP HEADS CLEAR

The powerful suction of Propellair Verti-Stacks exhausts fumes, moisture, and heat high above the roof . . . brings in clean air at worker level . . . staves off "afternoon slump." And in hot summer weather, Verti-Stacks operated during the night quickly sweep the entire building with fresh drafts of cool air—leave it right for a vigorous morning start.

Scientifically designed

From tip to hub, airfoil section fan blades pull as well as push, like an airplane wing . . . give high-volume air movement yet consume little power. Simple, sturdy, efficient—job-proved Propellair ventilation earns many times its cost. Types, sizes, and mountings meet all industrial requirements, suit all applications. Write today for full details.

Butterfly dampers open and close automatically; offer negligible resistance to air flow.



PROPELLAIR
DIVISION OF ROBBINS & MYERS, INC.
SPRINGFIELD • OHIO

When inquiring specify CP 3276—see handy form pages 2-3

21st Exposition of Chemical Industries DEC. 1-6

**GRAND CENTRAL PALACE
NEW YORK CITY**

Management International Exposition Co.

A WEALTH OF NEW IDEAS AWAITS YOU HERE

New ideas were never so important in the chemical industry as now...with rising costs and stiffening competition calling for better, cheaper methods and materials to perform chemical processing operations...to improve products...step up production. You'll get new ideas...plenty of them...more than ever before...at the 1947 Chemical Exposition. 340 exhibitors will show and demonstrate latest techniques, equipment and supplies developed to stimulate chemical progress. Technical representatives will be there to assist you in adapting these latest advancements to your operations.

No matter what your connection with the chemical industry, this exposition offers plenty you can profitably use on present problems and future plans. By staying abreast of all that is new in all phases of the industry, you'll help to keep your company ahead...and yourself, too.

So mark the date on your calendar NOW. It's an event you can't afford to miss.

**DON'T PASS UP
THIS BIG OPPORTUNITY**
You'll say, "time well spent"

"Chemical Show" Preview

operation. It applies body labels and when desired, neck labels; all around wraps or foil to round or fluted glass containers from 2 to 4 inches in diameter and from 3 to 13 inches high.

★

The Eimco Corp., Salt Lake City, Utah

LABORATORY FILTER UNIT

Expect to display drum or disc continuous vacuum unit available in stainless steel, monel and other materials, for giving filterability data.

★

Eimer and Amend, New York, N. Y.

REAGENTS

Tested purity reagents, and their place in the modern laboratory, will be featured.

★

Eriez Manufacturing Co., Erie, Pa.

PERMANENT MAGNETIC SEPARATION

Working model of new permanent magnetic pulley and liquid pipe-line trap will demonstrate removal of iron contamination for machinery protection, product purification and prevention of fire and explosion.

★

Ertel Engineer Corp., Kingston, N. Y.

VACUUM FILLING MACHINES

Will show models Pneumo-Vac and ESA vacuum fillers.

PYROGEN & BACTERIAL RETENTIVE FILTERS

Both laboratory and production sizes, of stainless steel construction will be displayed.

★

The Exact Weight Scale Co., Columbus, O.

ADJUSTABLE BAG HOLDER

Will exhibit this equipment for use with manufacturer's various models of sacking scales. Designed to prevent slipping of paper and cotton bags.

★

Falstrom Company, Passaic, N. J.

INSTRUMENT PANELS & CUBICLES

First exhibit of knocked-down cubicle for installation of process instruments and wiring will be shown along with latest in steel cabinet designs.

★

Harry J. Ferguson Co., Jenkintown, Pa.

PORTABLE BELT BOOSTER

A 10 foot model for raising or lowering packaged goods to stacking or conveyor levels by means of one-man hydraulic jack will be exhibited.

★

Fischer & Porter Co., Hatboro, Pa.

AUTOMATIC FLOW RATIO CONTROLLER

Will feature a chemical service diaphragm motor

CHEMICAL PROCESSING Preview

When inquiring specify CP 3277 . . . see information request blank, pgs. 2-3

"Chemical Show" Preview

valve for use with the system.

CAPACITANCE-TYPE FLOW ALARM

Accurate control of low flow rates will be revealed, also effectiveness with opaque liquids, as applied to manufacturer's variable-area flow meters.

★

Fisher Scientific Co., Pittsburgh, Pa.

PREFABRICATED LABORATORY FURNITURE

Recent additions to this line of metal products will be displayed in a "Modern Laboratory" setting.

★

Fletcher Works, Inc., Philadelphia, Pa.

CENTRIFUGAL

Will exhibit a 26" "Junior" model with removable basket and special locking device which holds basket securely during operation.

★

Foote Mineral Co., Philadelphia, Pa.

LITHIUM CHEMISTRY

Recent developments and applications in this field will be portrayed.

★

Fuller Co., Catasauqua, Pa.

PROCESSING & HANDLING EQUIPMENT

Exhibit will include coolers and pneumatic conveying systems for dry pulverized and granular materials, also feeders, rotary compressors and vacuum pumps, material-level indicators.

★

General Ceramics & Steatite Corp., Keasbey, N. J.

PORCELAIN EQUIPMENT

Tentative plans are to show a standard porcelain flanged tower, also sample pipe fittings and cocks.

★

Glengarry Machine Works, Inc., Bay Shore, N. Y.

NET WEIGHT FILLING MACHINE

Fills variety of dry products into a wide range of containers. A spray dryer will also be displayed.

★

Glyco Products Co., Inc., Brooklyn, N. Y.

CHLORINATED PRODUCTS

Will feature production of monochlorobenzene, para-dichlorobenzene, orthodichlorobenzene and other chlorinated organic products at new Natrium, W. Va., plant.

LUBRICANTS

Newly developed products for drawing, stamping and sheeting metals will be introduced. These are said to permit increased operating speed and die life.

NOVEMBER, 1947

The New Industrial Cartesian Manostat

**Automatic • Sensitive
Positive • Economical**

*Based on a Principle
Never Before Used for
Automatic Pressure
Control in Industry!*

Working on the physical principle of the Cartesian Diver—a method new to industry—this new type Industrial Manostat is entirely automatic. No complex electrical or mechanical systems—no additional equipment of any kind is required for its efficient operation. You have only to put this new, completely self-contained unit in your system—**SET IT AND FORGET IT!**

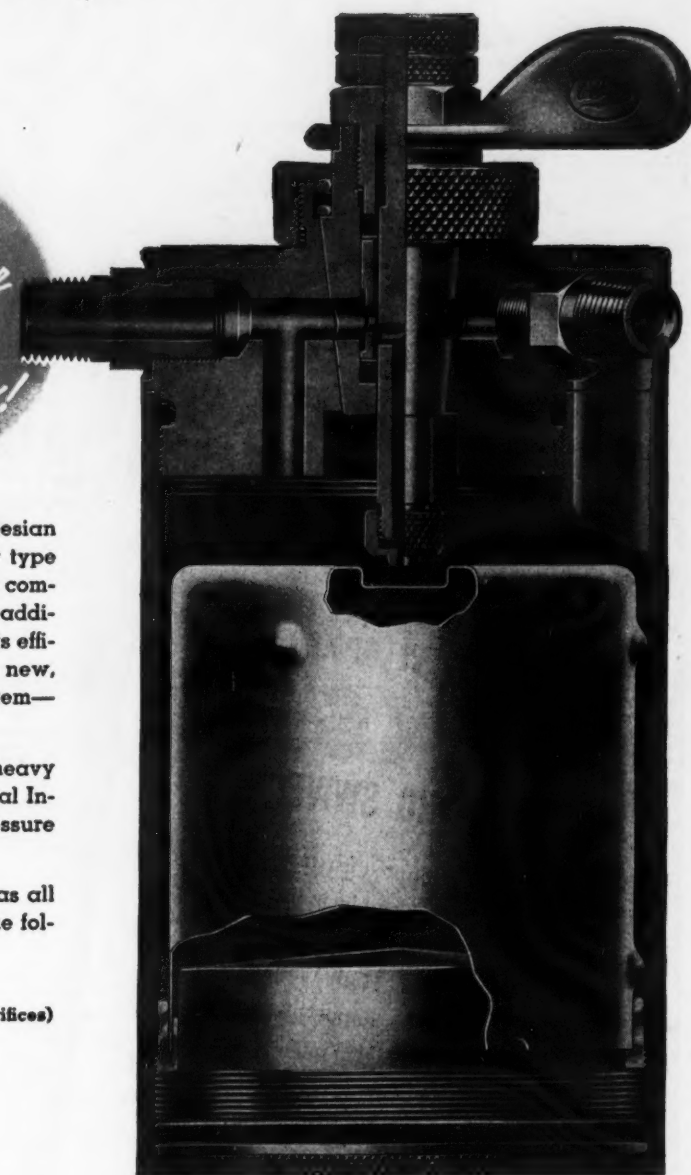
Fulfilling the present pressing demand for a heavy duty, all metal unit, this unusually economical Industrial Manostat will maintain constant pressure or vacuum to within 1/10 of 1%.

The new Emil Greiner Industrial Manostat has all the advantages of our glass Manostat plus the following important features:

- 1—Larger Capacity
- 2—Wider Range (supplied with 3 interchangeable orifices)
- 3—Higher Sensitivity
- 4—Greater Flexibility
- 5—Control of both Pressure and Vacuum
- 6—Simplified Operation
- 7—Fool-Proof Design
- 8—Stainless and Chrome Steel
- 9—Low Price

For complete information, including performance and operating data, write for Bulletin ICM-96.

To see our manostats in operation, you are invited to visit our Booths 226 and 228 at the Exposition of Chemical Industries, Grand Central Palace, New York City.



ACTUAL SIZE

Cartesian Manostat, Model No. 5 (Industrial), complete with 3 interchangeable orifices and mercury, \$95.00.

Size: 7 1/2" overall. Diameter: 3 1/4". Weight: approximately 6 1/2 lbs.

The EMIL GREINER Co.
161 SIXTH AVENUE NEW YORK 13, N. Y.

Branch Office: 112 BROADWAY, CAMBRIDGE, MASSACHUSETTS

—When inquiring specify CP 3278 . . . see information request blank, pgs. 2-3—

Now!

FORGED STEEL

THE LATEST DEVELOPMENT IN CHIKSAN BALL-BEARING SWIVEL JOINTS

CHIKSAN has adopted forged steel for all Styles and Sizes to and including 2"...in the following pressure ratings: 1,000 psi, 3,000 psi, 12,000 psi and High Temperature (700 psi, 500° F.). This important development now brings even higher quality to CHIKSAN users everywhere. It is tangible evidence of CHIKSAN's policy for continuous development in the design and manufacture of Ball-Bearing Swivel Joints for all purposes.

CHIKSAN REPRESENTATIVES IN PRINCIPAL CITIES
EXCLUSIVE EXPORT REPRESENTATIVE: CHIKSAN EXPORT CO., Brea, California
Branches: New York 7—Houston 1



**BALL BEARING
SWIVEL JOINTS
FOR ALL PURPOSES**

CHIKSAN COMPANY
BREA, CALIFORNIA
New York 7 Houston 1

When inquiring specify CP 3279 — see handy form pages 2-3

"Chemical Show" Preview

Great Western Manufacturing Co., Leavenworth, Kas.

SIFTING AND SCREENING MACHINERY

Recent improvements in sifting and screening dry, liquid and semi-liquid materials for chemicals, cosmetics, foods and paints will be emphasized.

★

The Emil Greiner Co., New York, N. Y.

CARTESIAN MANOSTAT

Exhibit will include both laboratory and industrial models of an improved, more sensitive, completely unitized and mounted instrument.

★

Grinnell Co., Inc., Providence, R. I.

DIAPHRAGM VALVES

Valves use a resilient diaphragm as a closing medium; no packing glands. Streamlined passages prevent accumulation of sludge. Positive closure.

★

B. F. Gump Co., Chicago, Ill.

NET WEAIGHER

Demonstrations of a completely redesigned net weigher for dry powdered, pulverized or granular materials in amounts of 3 oz. to 2 lbs. will be given. Motorized for speeds up to 25 and 40 weights per minute.

★

Hanovia Chemical & Mfg. Co., Newark, N. J.

PHOTOCHLORINATIONS

Prominent space will be devoted to a demonstration showing how chlorinations may be accelerated by photosensitization, especially as applied to continuous flow and batchwise systems.

★

Hardinge Co., Inc., York, Pa.

THERMOMILL

This equipment, consisting of heater, mill and air classifier, will be the subject of a large, animated transparency forming the background display. Lighted photographic transparencies of other equipment will be included.

ROTARY DRYER

A glass model showing internal action of a Hardinge-built Ruggles-Coles unit will be in actual operation.

★

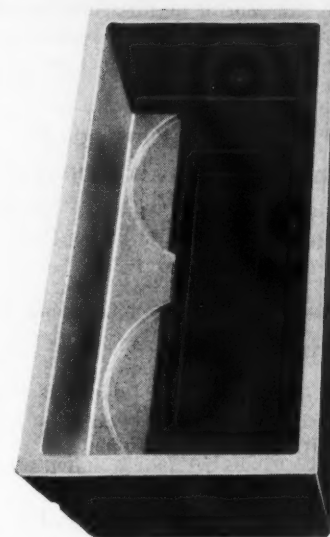
Heil Process Equipment Corp., Cleveland, Ohio

PROCESSING EQUIPMENT

Display will include heating units made of "Nocorodal" (carbon), chemical proof process equipment and lining materials.

KNIGHT-WARE

CHEMICAL EQUIPMENT



Special tank designed to hold two acid dipping vats.

Special Designs for Special Problems in Corrosion

ALTHOUGH simple in design the above tank solved a specific corrosion problem for its owner. Like most Knight-Ware units, it has been made in one jointless piece and is acid proof throughout. This flint-hard ceramic resists abrasion and is non-conductive.

Knight-Ware is made in standard as well as special designs in tanks, jars, towers, filters, pipe, fittings, kettles and valves. These units are custom-built by skilled craftsmen; the Knight organization has had over 40 years' experience in making chemical equipment. If you have a corrosion problem, write, giving as much data as possible in your letter.

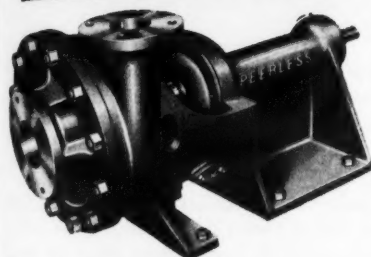
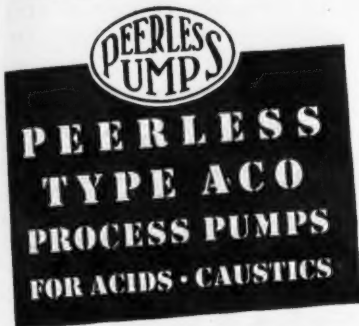
Maurice A. Knight

4011 Kelly Ave., Akron 6, Ohio

When inquiring specify CP 3280
— see handy form pages 2-3

REFINEMENTS IN PUMP DESIGN REDUCE COSTS OF PUMPING CORROSIVES

Compare the pumps presently handling your corrosives with the Peerless Type ACO, especially developed for pumping acids and caustics. The Type ACO is a single stage, single suction pump with the volute and drip pocket cast integral, of special alloys to suit the solution being pumped. Bronze, stainless steel, Monel, NI-resist can be furnished. Stuffing box is long and extra deep with special opening affording easy accessibility. Drive is electric motor through flexible coupling. Capacities up to 800 g.p.m. can be handled against heads to 200 feet.



VENTED VOLUTE:

Special passage vents into discharge. Eliminates conventional screwed valve which often corrodes.

DRIP POCKET DRAIN:

A flange and two bolts which can be made of stainless steel replaces screw type fitting ordinarily used for this purpose.

VERTICAL SPLIT:

Utilizes one piece circular gasket; easier handling and replacement assured by this design.

INBOARD END CAP:

Special alloy cap prevents liquid passing water slinger into bearing housing.

NEW BULLETIN: Fully describes and illustrates these and additional refinements in Type ACO design. Write for Bulletin D-2400.

PEERLESS PUMP DIVISION

FOOD MACHINERY CORPORATION

Factories: Los Angeles 31, Calif.; Quincy, Ill.; Indianapolis, Ind. District Offices: Chicago 40, 4554 North Broadway; Philadelphia Office: Suburban Square, Ardmore, Pa.; Atlanta Office: Rutland Building, Decatur, Georgia; Dallas 1, Texas; Los Angeles 31, California.

When inquiring specify CP 3281

— see handy form pages 2-3

"Chemical Show" Preview

Hercules Powder Co., Inc., Wilmington, Del.

CELLULOSE DERIVATIVES

Growing chemical and industrial importance of these, also wood rosin derivatives, will form the theme of the exhibit. Will include applications of sodium carboxymethylcellulose, a new water soluble cellulose gum useful to textile, paper, paint, ceramics, rubber, cosmetics and printing industries.

WOOD ROSIN DERIVATIVES

Recent chemicals displayed in this group will include a rosin resin emulsion for oil well drilling; a hydrogenated, non-oxidizing rosin of value for pressure-sensitive adhesives, and Pentalyn resins used in manufacture of varnish and protective coatings.

Hersey Manufacturing Co., South Boston, Mass.

ROTARY DRYERS

New applications of standard rotary dryers will be featured

F. R. Hormann & Co., Inc., Brooklyn, N. Y.

PHARMACEUTICAL FILTERS

Special units designed for sterile filtration of penicillin, streptomycin, plasma, etc., will be displayed along with standard lab and industrial filters.

Industrial Process Engineers, West New York, N. J.

PROCESSING EQUIPMENT

Products on display will include continuous reaction column and agitators for batch and continuous use.

Ingersoll-Rand Co., New York, N. Y.

COMPRESSORS, JETS & PUMPS

Full-size, sectionalized operating models will be included in a display of compressors for "oil-free" air; compressors and blowers for processing; chemical pumps; ejector jets and steam jet water vapor refrigeration.

Jerguson Gage & Valve Co., Somersville, Mass.

TRANSPARENT GAGE

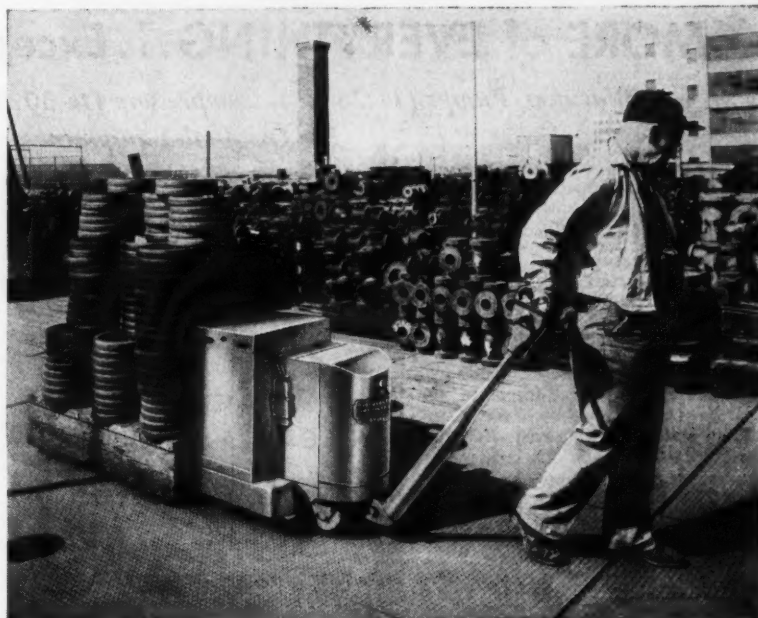
On exhibit will be new series 50 gage for pressures up to 10,000 pounds. This is believed to be the first unit of its type manufactured in this country.

The Karl Kiefer Machine Co., Cincinnati, Ohio

VARI-VISCO FILLER

A machine of the 1/2 oz. to 1 qt. range will be displayed. It fills jars and cans with liquids and semi-liquids at 12 to 250 CPM.

Get the Load out of your Plants

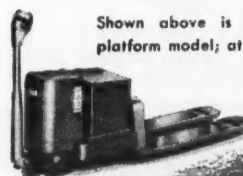


...WITH THE NEW HydroLectric K

In shipping . . . receiving . . . intra-plant material moving, the New HydroLectric Model K is proving its stamina and economy in many of the nation's leading plants.

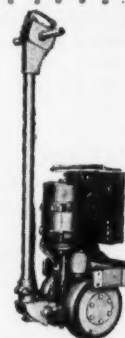
Reports from users like the well-known valve manufacturer illustrated above indicate that the new trucks easily out-perform previous Lift Truck models, long considered "prime" movers in industry and commerce.

With many new features making use and maintenance even easier, the HydroLectric "K" deserves your prompt investigation. Write for new, illustrated bulletin showing mechanical details and action photos.



Shown above is the HydroLectric "K" platform model; at left, the pallet model.

Both are produced in a wide variety of sizes for every use.



Rugged heart of the HydroLectric "K" is the Stuebing Power Package. Dual front wheel drive, transmission, motor and control in a single unit, easily removed and replaced for infrequent maintenance.



LIFT TRUCKS INCORPORATED

2425 Spring Grove Ave., Cincinnati 14, Ohio

When inquiring specify CP 3282 — see handy form pages 2-3

PUMPS-MOTORS COMPRESSORS

MORE of EVERYTHING...Except Complication

*... in Gast Vacuum Pumps (to 28 in.), Compressors (to 30 lb.), and Air Motors (to 1 h.p.)
For Original Equipment*

When you drop a match into an ash tray, you don't put a spring behind it to *MAKE* it drop; it drops by itself.

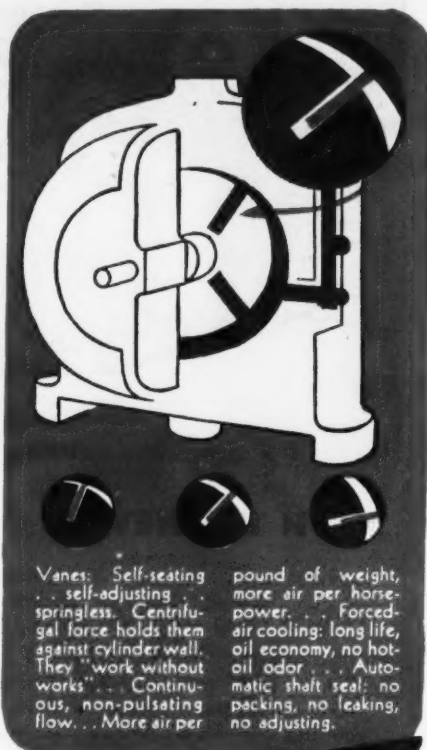
Gast design is like that. Instead of complicating matters with mechanical means for accomplishing ends, Gast uses the forces inherent in things themselves.

Example: A rotor rotates. In doing so it creates centrifugal force. In an armature that force goes to waste. In a piston it doesn't even exist. *But in a Gast it compresses the air.* (Or creates the vacuum. Or runs the motor.)

Thus the Gast is remarkably free of valves, springs, rings, slides, guides, hinged members and the like. With design that doesn't get in its own way the Gast is direct and simple, finely built, reasonably priced. With such design the Gast is able to give **MORE** per pound of weight, **MORE** per horsepower, **MORE** of what's wanted, and **LESS** of power-consuming, maintenance-breeding complexity.

That is what makes the Gast preferable as standard equipment on other machines. How about yours? Better send now for the new Gast catalog. It's full of ideas.

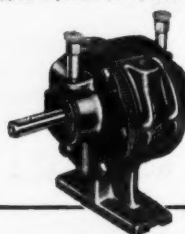
GAST MFG. CORP.
101 Hinkley Street
Benton Harbor, Michigan



GAST
ROTARY

ENGINEERING TEST OFFER .. So You Can SEE IF YOU'RE MISSING SOMETHING!

Simply write our Engineering Department and explain the operation you think air might handle, or describe the job air is already doing for you. Our Engineering Department will study your problem, select or design a Gast unit to do the specified work at less cost or at greater efficiency or both. Then, without cost or obligation, the recommended unit will be shipped to you for your performance tests.



GET THIS IDEA-CATALOG



It not only tells how Gasts are built and all about them, but suggests uses that may not have occurred to you. Write for it; no charge or obligation!

R-1781-R

VACUUM PUMPS • AIR COMPRESSORS • AIR MOTORS



Gast Vacuum Pump in a Tank Sump Cleaner



A Gast Compressor is Tucked Inside this Powder Blower



Gast Vacuum Pump in a Photographer's Portable Printer.

"Chemical Show" Preview

Kieley & Mueller, Inc., North Bergen, N. J.

CONTROL EQUIPMENT

New line of diaphragm valves, pressure regulators and pump governors will be shown in a variety of corrosion-resistant alloys, sizes and types. Displays will stress all-steel, boltless diaphragm motor construction, also control characteristics and high capacity of valve bodies. A sensitive pressure pilot in ranges to 10,000 psi will be seen, also a new liquid level pilot.

Kimble Glass, Vineland, N. J.

LABORATORY GLASSWARE

Will present a representative selection of retested, precision graduated and ungraduated ware, covering general and particular requirements of research, analytical and control laboratories.

Kinney Manufacturing Co., Boston, Mass.

LIQUID & HIGH VACUUM PUMPS

Will show high vacuum pumps, vacuum-tight valves and liquid pumps.

Knapp Mills, Inc., New York, N. Y.

LEAD-LINED STEEL

A process for applying poured homogeneous lead linings on steel, forming a corrosion-proof, inseparable covering, will be portrayed.

LEAD-COVERED COPPER TUBING

Will cover a production procedure making possible the marketing of this product, on a volume basis, at a per-ft. cost only slightly more than that of lead pipe. Uses and advantages will be told.

Koppers Company, Inc., Pittsburgh, Pa.

CHEMICALS

Featured chemicals will include diamyl phenols, Di-tert-butyl-meta-cresol; Di-tert-butyl-paracresol and Divinyl benzene. Also Catechol, Resorcinol, Penacolite adhesives.

The La Bour Co., Elkhart, Indiana

PACKINGLESS SELF-PRIMING PUMPS

A cut-out animated full-size model will show features of this new centrifugal self-priming pump (10-500 gpm; heads to 16 ft.). Also displayed will be standard line of centrifugal pumps.

Laboratory Furniture Co., Long Island City, N. Y.

LABORATORY FURNITURE

Chemical laboratory well bench, with sink and fume

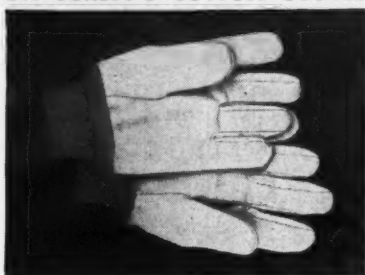
CHEMICAL PROCESSING Preview

When inquiring specify CP 3283 . . . see information request blank, pgs. 2-3

NEW DEVELOPMENT

Saves 40% ON SURETY'S COTTON GLOVES

ON WORK GLOVE COSTS



Industrial tests prove FIBRE-BONDED gloves outwear ordinary gloves 5 to 1 on tough jobs . . . 8 to 1 on average jobs!

Special Sureseal treatment of glove palm strengthens FIBRES, SEAMS AND STITCHING . . . produces amazing resistance to abrasion, snagging and wear. Sureseal impregnation will not crack, chip or peel—gives long-lasting gripping surface. Available in knit-wrist, band-top and gauntlet types. Also quotations on treating your cotton, leather or asbestos gloves. Details on request.

THE **SURETY** RUBBER CO.

CARROLLTON, OHIO

When inquiring specify CP 3284—see handy form pages 2-3

for any application where stainless steel is needed only on the contact side nothing beats

Magnified view of IngAcad Sheet to show proportion of stainless to mild steel



INGACAD STAINLESS-CLAD STEEL

Available in sheets 18 to 8 gauge, and in plates 3/8" to 1/4", inclusive. Full details on request.

INGERSOLL Steel Division • Borg-Warner Corporation
310 South Michigan Avenue, Chicago 4, Illinois
Plants: Chicago, Illinois; New Castle, Indiana; Kalamazoo, Michigan

When inquiring specify CP 3285—see handy form pages 2-3

NOVEMBER, 1947

"Chemical Show" Preview

hood, also storage cabinet, will be exhibited. Rapid bench rearrangement is possible.

Ladish Co., Cudahy, Wis.

SEAMLESS REDUCING ELLS

Scheduled for its first appearance is an entirely seamless reducing ell which eliminates need for an elbow and reducer where 90° directional change is combined with change in pipe size.

Lapp Insulator Co., Inc., LeRoy, N. Y.

PROPORTIONING PUMPS

Will demonstrate operation of "Pulsafeeder" piston-diaphragm units, along with parts and accessories, for special industrial applications.

PORCELAIN CENTRIFUGAL PUMP

This chemical unit, to be announced for sale after the first of the year, will be displayed along with its porcelain and packing elements.

The Lasko Co., Fitchburg, Mass.

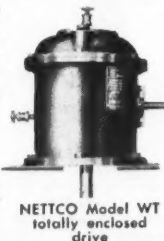
TABLET INSPECTION MACHINE

Plans to exhibit this variable-speed unit which inspects first one side, then the other, of tablets, pills, small articles. Vacuum nozzles reject.



NETTCO Agitating Equipment—specially designed for the work—is thoughtfully engineered in every detail to suit your particular requirements. A complete range of agitators can be supplied in gear ratios from 1 to 2,000 and speeds from 1/2 to 1,750 R.P.M. This custom-made NETTCO equipment does not mean added cost; by the use of standardized parts and units, NETTCO provides improved agitating equipment economically, in all sizes, types and ratios.

Write for information
NEW ENGLAND TANK & TOWER CO.
93 Tileston Street, Everett 49, Mass.



NETTCO Model WT totally enclosed drive

See Us at the Chemical Industries Show, New York Booth 50, DEC. 1-6

When inquiring specify CP 3286—see handy form pages 2-3

Precision Scales for every Chemical Operation . . .

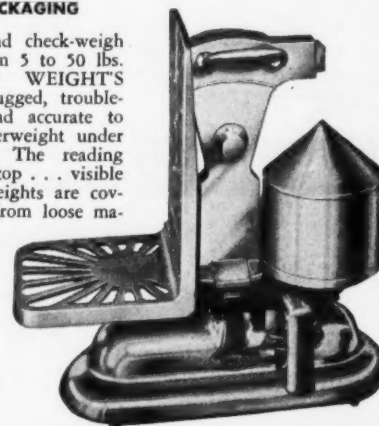
WIDE RANGE SACKING OPERATIONS

No EXACT WEIGHT Scale we have ever built for general industry for heavy duty precision operations has been so popular as the "GENERAL," Model No. 1120. Many times the order for one unit is immediately followed by one for several additional units where the need exists. The following features, we believe, are the real reasons for this popular demand: (1) low weighing platform (6 1/2" from floor), (2) open construction, easy to clean, (3) inclined tower as 30 degrees, revolves to face any direction, (4) dial 16 ozs. over and underweight, (5) speed, due to short platter fall, (6) weighs accurately in level or out of level, (7) aluminum construction, three times lighter than cast iron. Capacity to 150 lbs.



SMALL BAG PACKAGING

If you package and check-weigh bags and cartons from 5 to 50 lbs. investigate EXACT WEIGHT'S Model 1038. It's rugged, trouble-free in operation and accurate to 1 oz. over and underweight under full carrying load. The reading dial is placed in the top . . . visible from any angle. Weights are covered to avoid error from loose material collecting on the weight platter. The scale works accurately anywhere regardless of floor level—no leveling necessary. Equipped with handles for easy transportation in the plant.



EXACT WEIGHT Scale Model No. 706

— End tower construction, short platter fall, fraction-ounce dials. Ideal for table use in precision operations in all chemical formula work and production line check weighing. Dial markings to specifications—Capacity to 27 lbs.



INDUSTRIAL PRECISION
Exact Weight Scales
THE EXACT WEIGHT SCALE COMPANY

31 W. Fifth Ave., Columbus 12, Ohio
Dept. E, 783 Yonge St., Toronto, Canada

When inquiring specify CP 3287—see handy form pages 2-3

PROTECT YOUR PROCESS

in



**PULVERIZING
GRINDING
GRANULATING
MIXING
DISPERSING
COMPOUNDING
SIFTING**

with
ABBÉ
Equipment

These catalogs give complete descriptions, operating data and instructions for proper selection of the equipment you need.

Write for these Catalogs

ABBÉ ENGINEERING CO.—46 CHURCH ST., NEW YORK 7, N. Y.

When inquiring specify CP 3288 — see handy form pages 2-3

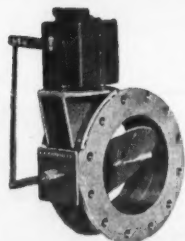


ANSWERS YOUR QUESTIONS

- 1—On How to Control and Shut Off Air or Other Fluids Easily —Quickly
- 2—Manually or Automatically
- 3—In any Desired Pipe Line
- 4—In any Plant or Process

This Catalog tells how Rockwell Slide or Butterfly Valves provide more effective, more efficient flow control of air, gases or any fluids. They are built of any desired metal or rubber-lined; threaded or flanged; pipe sizes-1" to 60" and larger.

Standard Butterfly Valve with electric motor control, made with any manual or automatic control.



Standard Slide Valve, pull handle control, also with lever or wheel control.



Write for this Free Catalog

W. S. ROCKWELL COMPANY
220 Eliot Street • Fairfield, Conn.

When inquiring specify CP 3289 — see handy form pages 2-3

"Chemical Show" Preview

Lukens Steel Company, Coatesville, Pa.

STAINLESS-CLAD STEELS

Consist of a light layer of standard specification stainless permanently bonded to a heavier backing plate of ASME quality steel. It is available in cladding percentages from 5% to 50% of total plate thickness; in plate thicknesses from 3/16 in. to over 3 in. and in plate widths to 178 in.

*

The Luzerne Rubber Co., Trenton, N. J.

HARD RUBBER PRODUCTS

Exhibit will cover general line of hard rubber products including pipe, fittings, valves and utensils for handling corrosive solutions.

*

Macbeth Corporation, New York, N. Y.

pH METER FOR PANEL MOUNTING

pH instruments exhibited will include an explosion-proof and an industrial meter for panel mounting. Provide continuous indication of pH in process.

*

Magnus, Mabee & Reynard, Inc., New York, N. Y.

ESSENTIAL OILS

Several new products of extremely high concentration will be included in this exhibit of essential oils, flavor and perfuming materials.

*

The Matheson Co., Inc., East Rutherford, N. J.

CHEMICAL GASES & REDUCING VALVES

60 different chemical gases not readily available will be displayed in six sizes of cylinders holding from 1 to 100 lbs. Complete line of reducing valves for chemical gases will also be shown.

*

Meriam Instrument Co., Cleveland, Ohio

INSTRUMENTS

Display will include manometers, draft gauges, level gauges, bubblers and other instruments as applied for the measurement of pressures, vacuums and differentials.

*

Micro Metallic Corp., Brooklyn, N. Y.

STAINLESS STEEL FILTERS

Two new filters will be presented: 1) diaphragm-type for clarification of solutions in lines, and 2) types for solids-collection and clarification work.

STAINLESS STEEL PRESSURE SNUBBERS



Listed by Underwriters Laboratories, Inc., and Factory Mutual Laboratories.

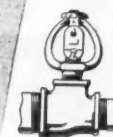
WHERE HAZARDS ARE GREAT

Wherever an industry requires the storage or handling of materials capable of bursting instantaneously into an intense and devastating fire, the utmost in fire protection is none too good.

Blaw-Knox Aquatomic Fog Nozzles stop "bad fires" at the start.

These dependable non-clogging and hard hitting Fog Nozzles cool and quench sudden fires in mere seconds.

Install Aquatomic Fog Nozzles where the hazard is the greatest for 100% dependable protection.



Also—

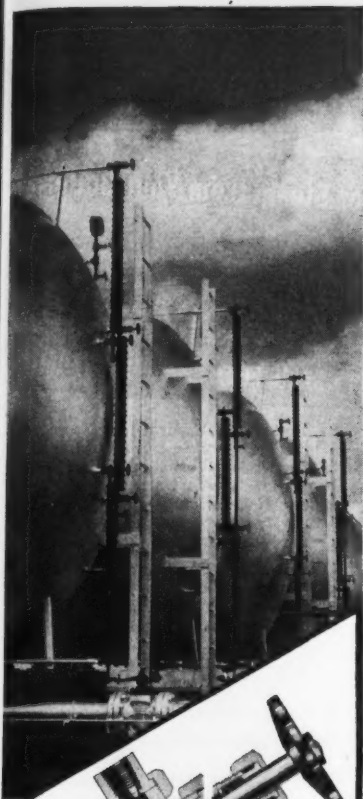
Blaw-Knox offers Standard Wet and Dry Pipe Systems, as well as Thermostatically Controlled Pre-Action and Deluge Systems.

Write for details.

BLAW-KNOX SPRINKLER DIVISION

831 Beaver Avenue, N.S.,
Pittsburgh 12, Penna.

When inquiring specify CP 3290
—see handy form pages 2-3



Jerguson
Valve No. 64
Drop Forged Steel

FOR EFFICIENCY, USE JERGUSON VALVES, And Flat Glass Gages

JERGUSON No. 64 Gage Valves will do the kind of efficient job you want with flat glass gages.

Distinctive valve design makes it possible to remove the gage *without removing the valves or draining the liquid from the vessel*. This means minimum maintenance time and cost.

Jerguson No. 64 Valves have safety shut-off, stainless steel renewable seats and trim. Recommended for pressures up to 3200 pounds.

Write for Data Unit
and full information



When inquiring specify CP 3291
— see handy form pages 2-3

NOVEMBER, 1947

"Chemical Show" Preview

A line of pressure snubbers designed to prevent failure of pressure gauges due to pressure shock will be exhibited. All-stainless steel construction.

Mine Safety Appliances Co., Pittsburgh, Pa.

SELF-GENERATING OXYGEN MASK

Will display what is described as "the only self-generating oxygen breathing mask that supplies chemically-evolved oxygen from a replaceable cannister."

Mixing Equipment Co., Inc., Rochester, N. Y.

MIXERS & AGITATORS

Will exhibit fluid mixers, portable and laboratory mixers and accessories, a full-size turbine-type impeller with removable blades.

MRM Co., Inc., Brooklyn, N. Y.

VACUUM LIQUID FILLER

New 4-spout liquid vacuum filling machine which fills all liquids up to quart quantities into glass and metal containers. Unit is portable — production capacity 10 quarts per minute.

National Engineering Co., Chicago, Ill.

MIXERS (Mulling-type)

Will demonstrate mixing of materials of various consistencies, and rapidity of blending, as obtained with laboratory, pilot plant and production units for dry, semi-dry and pasty materials.

National Research Corp., Boston, Mass.

VACUUM FRACTIONATING STILL

This rotary high vacuum apparatus is for distillation and separation of plasticizers, essential oils, drugs, fine chemicals and petroleum products. It features close separation under high vacuum of high molecular weight material. For laboratory or pilot plant production.

National Technical Laboratories, S. Pasadena, Cal.

FLAME PHOTOMETER ACCESSORY

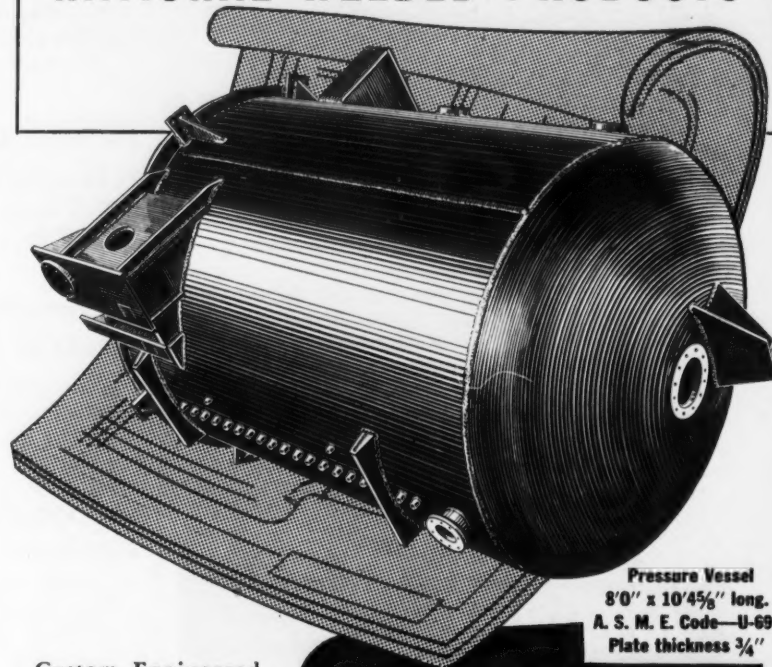
Will introduce this unit for qualitative and quantitative analyses of many chemical elements. For use with Beckman Quartz Spectrophotometer, method is adaptable to analyses of water, metal and ore; determination of inorganic traces and impurities in foods, chemicals, etc., and other uses.

New England Tank and Tower Co., Everett, Mass.

MIXERS

Mixing units, including various agitator drives, a complete mixing unit, and Flomix continuous mixer, will be exhibited.

NATIONAL WELDED PRODUCTS



Pressure Vessel
8'0" x 10'4 1/2" long.
A. S. M. E. Code—U-69.
Plate thickness 3/4"

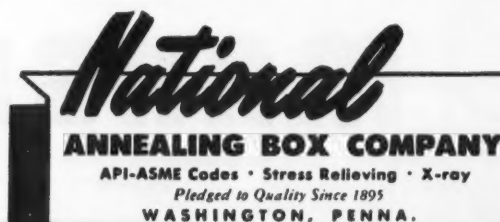
★ CUSTOM ENGINEERED

TO MEET EXACTING CODES
AND REQUIREMENTS

FROM OPEN HEARTH, STAINLESS,
ALLOY AND CLAD STEELS

Custom Engineered by NATIONAL means reliable and durable equipment for the chemical, processing and petroleum industries. All manufacturing operations such as forming, welding, stress relieving and machining are performed within our own plant—under the constant protection of X-ray and manual inspections.

NATIONAL will gladly work with you while your plans are in the formative stages, or from completed blue prints. Write for Bulletin which shows our complete fabricating facilities.



NATIONAL PRODUCTS

Pressure Vessels
Galvanizing Kettles
Annealing Covers
Tin Pots
Salt Annealing Pots
Wire Annealing Pots
Special Plate Work

When inquiring specify CP 3292 — see handy form pages 2-3

Page 93

CLEAN *without soap*



**No Film
No Streaks**

You may like soapy cleansers—and think they're good—until you try the new wetting agent, Alconox.

**This amazing new cleanser
Lifts off hard-to-clean dirt... Fast**

No matter what you want to clean, or how dirty it may be, Alconox will make it sparkle. Yet it is gentle on the hands.

**Soapless but suds freely
ALCONOX cleans almost everything**

So you needn't stock different cleansers for different jobs. One spoonful makes a gallon.

**Just Wash and Rinse
It's Sparkling Clean**

Wiping practically unnecessary. Leading hospitals, laboratories, food and industrial plants use it—like it. So will you. Try it on your toughest job. 3-lb. box \$1.25; 12 boxes \$13.50; 50-lb. bag, 32c lb. I.o.b. New York. Prices for larger bulk on request. Order today. Or write for Free Sample.

STANDARD SCIENTIFIC SUPPLY CORP.
34 West 4th St.
New York 12, N. Y.

ALCONOX *cleans better
cleans quicker*

When inquiring specify CP 3293 — see handy form pages 2-3

"Chemical Show" Preview

Omega Machine Co., Providence, R. I.

GRAVIMETRIC FEEDER

Operation of a full-size belt-type unit complete with bucket elevator will keynote the exhibit. Recording and remote control features will be demonstrated.

The Parker Appliance Co., Cleveland, Ohio

TUBING ACCESSORIES

Will display full line of tube fittings, valves and tube fabricating equipment.

The Perkin-Elmer Corp., Glenbrook, Conn.

INFRARED SPECTROMETER

A recording instrument, this unit will be displayed with new high speed, high sensitivity thermocouple used as detector and for modulated beam recording.

Chas. Pfizer & Co., Inc., Brooklyn, N. Y.

CHEMICALS

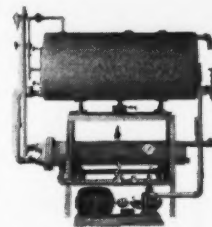
Among various new products featured is Calcium Pantothenate, dextrorotatory, a newer member of the so-called "B" complex vitamins (for medicinal use primarily). Also, Dimethyl, Diethyl and Dibutyl Esters of Itaconic Acid for plastic applications.



**Every Pound of Steam from Your Boiler
with a**

SCHAUB *Heat Reclaim* SYSTEM

SAME BOILER... SAME FUEL... MORE STEAM!



You can get extra steam from your present Boiler by stopping flash heat losses. A Schaub Heat Reclaim System saves wasted B.T.U.'s by re-using "flash" steam that ordinarily escapes from the condensate receiver vent.

This "lost heat" is transferred to the feed water on its way to the boiler and builds feed water temperatures up to 260° F.—or higher. Automatic water level and make-up are provided for. Write today for full information.

SCHAUB SYSTEMS—The Key to Boiler Room Efficiency—

FRED H. SCHAUB ENGINEERING CO., INC.

2113 South Marshall Boulevard • Chicago 23, Illinois

When inquiring specify CP 3295—see handy form pages 2-3

There's a Marsh instrument for every process —

**PRESSURE GAUGES
OF ALL TYPES**



The Mastergauge, illustrated above, is standard bearer for the broad Marsh line of pressure, vacuum, and compound gauges. It represents Marsh accuracy and stamina in its highest development.

The Marsh Diaphragm Gauge, opposite—used where the pressure medium cannot be permitted to enter the bourdon tube—is typical of many special types of gauges.



Whatever the need, there is a Marsh pressure gauge or dial thermometer that will meet it... better. Try Marsh instruments where others have failed. The tougher the application the more welcome the opportunity to demonstrate Marsh accuracy and stamina!

Every range of pressure is covered by Marsh Gauges. Every service condition—such as pulsating pressure, or excessive vibration—is met by special types of movements. Every pressure medium is provided for by the range of materials available in bourdon tubes. The Marsh line of Dial Thermometers is equally comprehensive. It includes both bi-metal and bourdon tube types for practically all temperature ranges.

Marsh engineering service assures proper use of Marsh instruments. Ask for recommendations covering your requirements.

JAS. P. MARSH CORPORATION

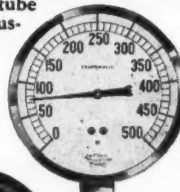
Dept. R, Skokie, Illinois

MARSH

"THE STANDARD
OF ACCURACY"

**DIAL
THERMOMETERS FOR
EVERY PURPOSE**

Practically all service conditions and temperature ranges are covered by Marsh Dial Thermometers. A typical bi-metal type is shown at the right below, and a distant reading thermometer of the bourdon tube type is illustrated at the left.



NO BREAK-THRU

When you filter through stone!

LeVal Filters support filter-aid on rigid, porous stone.

They have no cloths or pads to break through... or to sag and let cloudy filtrate pass. That is why LeVal Filters provide dependable clarification at all times.

LeVal Filters leave no messy cleaning job. Turning a couple of valves backwashes the filter — flushes filter cake to the sewer.

Portable Filter Station, complete with motor, pump, precoating tank, pipes, and valves. Other styles and models range from bottling strainers to large filter units, to serve every need of the process industries.

**WRITE FOR
BULLETIN F-103**

for complete information on the LeVal filtration principle.

WHITING CORPORATION

LEVAL FILTER DEPT. District Engineers in 26 principal cities
15667 Lathrop Ave., Harvey, Illinois

When inquiring specify CP 3296—see handy form pages 2-3

CHEMICAL PROCESSING Preview

When inquiring specify CP 3294... see information request blank, pgs. 2-3

CLIPPER MADE THIS CUT IN 29 SECONDS



NEWS FOR EVERY CHEMICAL PLANT

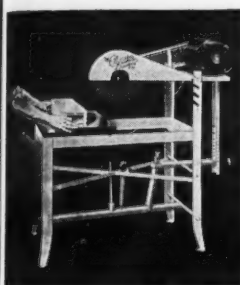
The new Clipper Multiple Cutting Principle makes possible faster cutting of every masonry material regardless of hardness.

SPECIAL SIZES and SHAPES

You can cut Straights, Angles, Skews or Notches quickly and easily from Clay, Chrome, Silica, Magnesite, Acid Brick and other materials with Clipper Masonry Saws.

Saves Time—Better Workmanship.
CLIPPER MANUFACTURING CO.
2800 Warwick
Kansas City 8, Missouri

YOU CAN TRY A CLIPPER
FREE
WRITE FOR LITERATURE



When inquiring specify CP 3297—see handy form pages 2-3

PROTECTION

YOU CAN
SEE THROUGH



ACME Full-Vision GAS MASKS Provide Safety with Comfort

From every angle, it's easy to see why ACME Full-Vision Gas Masks are specified for protection against gas hazards. Acme's larger lenses provide greater, non-distorted vision from every angle. There are no obstructions to normal range of sight. Acme's dead air check valve limits the amount of carbon dioxide the wearer rebreathes. And ACME Masks are comfortable . . . easier to wear and adjust. Write for full details.

ACME PROTECTION EQUIPMENT CO.

3037 West Lake Street, Chicago 12, Illinois

When inquiring specify CP 3298—see handy form pages 2-3

NOVEMBER, 1947

"Chemical Show" Preview

Photoswitch, Inc., Cambridge, Mass.

PHOTOELECTRIC & ELECTRONIC CONTROLS

Exhibit will include level controls requiring no floats or other moving parts in the tank; counters requiring no wiring; timers and combustion control systems.

Photovolt Corp., New York, N. Y.

ELECTRONIC pH METER

Will present new unit which requires no batteries, being operated from power line. Also other photoelectric and electronic equipment.

The Pioneer Rubber Co., Willard, Ohio

NEOPRENE GLOVES

Some new industrial styles will be shown, along with complete line for use with oils, grease, caustics, acids and most solvents.

Pneumatic Scale Corp., Ltd., North Quincy, Mass.

PNEUMATIC BOTTLE CLEANER

This new bottle "dry-cleaner" will be on exhibit as well as many types of containers which are filled, weighed, closed or otherwise handled in packaging by this manufacturer's equipment.

Popper & Klein, Inc., New York, N. Y.

AMPOULE FILLING, SEALING AND WASHING

Latest models will be demonstrated to show leak-proof seal; superior washing; rapid sterile filling in which hand operations are superseded.

Pressed Steel Tank Co., Milwaukee, Wis.

STORAGE & TRANSPORTATION CONTAINERS

Light weight cylinders, shapes and shells cold drawn from alloy steels will be exhibited through production models and photographs. For gases, liquids, solids and compressed gases.

Proctor & Schwartz, Inc., Philadelphia, Pa.

DRYER WITH AUTOMATIC DOOR OPENER

This device is a new feature and will be shown in use with a 20-tray standard model dryer.

ROLLER CURER

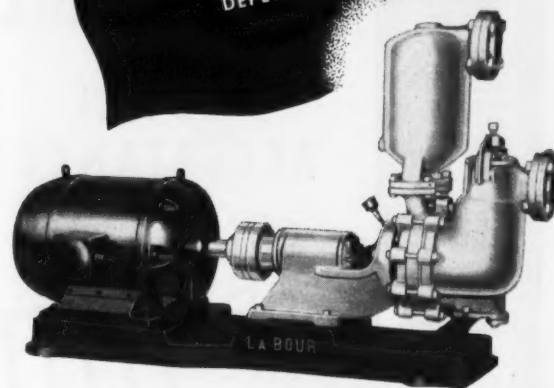
Fabrics impregnated with resins are subjected to 300-450 degrees F. Exhibited because of wide interest in recent development in resin treatment.

Productive Equipment Corp., Chicago, Ill.

VIBRATING SCREEN

Stainless steel unit for wet or dry sizing and de-watering will be shown. Adjustable for stroke and tilt.

CONTINUITY OF SERVICE
FREEDOM FROM FAILURE
A PUMP YOU CAN BANK ON
MINIMUM INTERRUPTION
OF OPERATIONS
IT WON'T LET YOU DOWN
THERE WHEN YOU WANT IT
CONSTANTLY ON THE JOB
DEPENDABLE



No matter how you say it
- - you mean **LaBOUR**

All the thousands of LaBour pumps which are serving the chemical industry today have at least one characteristic in common: dependability.

Any representative cross-section of experienced plant operating men will agree overwhelmingly that LaBour has delivered continuity of service far beyond ordinary standards of mechanical expectancy.

If you're skeptical, ask the operating experts you know. And if you want to know why LaBour pumps render superlative service, or how these trouble-free pumps can save you money and headaches—ask us.

THE LABOUR COMPANY, Inc.

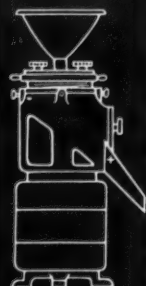
Elkhart, Indiana, U.S.A.



When inquiring specify CP 3299—see handy form pages 2-3

PREMIER

—better products
more profitably processed
the **COLLOID MILL**
with
**PROVEN
ACCEPTANCE**



ENDICOTT JOHNSON



Dannison



VULTEX
REG. U.S. PAT. OFFICE



CLIP COUPON FOR MORE DATA

PREMIER MILL CORPORATION
411 GENESEE STREET, GENEVA, N. Y.
SEND DESCRIPTIVE CATALOG

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

FLUID _____

"Chemical Show" Preview

% Proportioneers, Inc., %, Providence, R.I.

PROPORTIONING, FILLING AND LOADING PUMP

Pump displayed will be similar to that used for injecting 1.6 cc's of oil into watch cases at rate of 60 per minute.

Pulverizing Machinery Co., Summit, N. J.

DUST COLLECTOR AND SALVAGER

This new machine provides high efficiency in handling high dust loadings and difficult dusts that are damp, waxy or oily. It is particularly suitable as an auxiliary unit for maker's pulverizers.

Rapids-Standard Co., Inc., Grand Rapids, Mich.

CONVEYING EQUIPMENT

Included in the display will be light weight aluminum conveyor, a 5 ft. section of which weighs only 19½ lbs. Also to be exhibited will be a power belt conveyor which serves as a stacker, pusher in conveyor lines and as a horizontal unit.

Read Machinery, Div. Standard Stoker Co., York, Pa.

JACKETED VACUUM MIXER

Double-arm, stainless steel construction. No contamination from packing glands which are replaced with removable seals.

Reeves Pulley Co., Columbus, Ind.

POWER TRANSMISSION

Display will show some of maker's standard variable speed transmissions, pulleys and motor drives with automatic, electrical and fully automatic controls.

Republic Steel Corp., Cleveland, Ohio

PROCESSING EQUIPMENT, DRUMS AND FITTINGS

Indicative of the featured units among a very diverse exhibit are a steam jacketed kettle, stainless steel drums and stainless steel gaskets.

George C. Rodgers Co., Inc., New York, N. Y.

PACKAGE FILLER

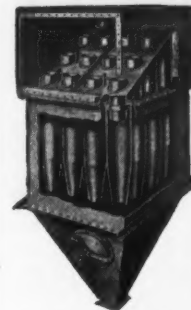
This new machine fills bags, jars, tubes, boxes and envelopes in range ¼ oz.-10 lbs. — production to 70 per minute. Handles powders and pastes. Filling quantity change-over made in 10 seconds.

Milton Roy Company, Philadelphia, Pa.

NON-PULSATING METERING PUMP

Incorporates features of maker's step-valve units and at the same time it gives uniform delivery at a uniform even rate of flow without any pulsation. Capacity of

There's a difference between **COMPACTNESS**
and **SPACE ADAPTABILITY...**



MULTICLONE
has BOTH!

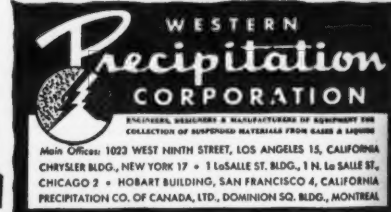
IN SELECTING dust recovery equipment, every foot of space saved is that much more valuable area available for other equipment. And the compactness of the equipment you select is just one of several ways to save plant space. Equally important is the adaptability of the equipment to space limitations within an existing plant.

And this is how the MULTICLONE makes two-way savings in space: The MULTICLONE itself is unusually compact, requiring as little as 1/6 the floor space, ¼ the cubic space of other units of comparable performance.

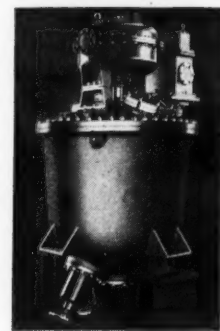
In addition, the shape of the MULTICLONE is readily adaptable to various space requirements and can be varied to fit odd-shaped or restricted areas that would otherwise be waste space.

For this reason you can fit the MULTICLONE into unbelievably small spaces, thus saving valuable plant area. But space-saving is just one of many MULTICLONE advantages. It is unusually efficient...has no high-speed moving parts to maintain, no screens to clean or replace...is simple to install, easy to service...and has many other important advantages.

Get the full story by sending for this MULTICLONE booklet



When inquiring specify CP 3301 — see handy form pages 2-3



DOPP KETTLES

*With the positive scraping Agita-
tor that cleans the heating surface
as it mixes the material.*

For mixing, cooling and processing
Chemicals and Food Products

BUFLOVAK EQUIPMENT

Division of Blaw-Knox Co.
1655 Fillmore Ave., Buffalo 11, N.Y.

When inquiring specify CP 3302 — see handy form pages 2-3

CHEMICAL PROCESSING Preview



**For longer
cloth life...**

**Robins Screen Cloth is built to take it
when the going is toughest**

You'll enjoy long, dependable service life from your Robins Screen Cloth.

It brings you toughness, hardness, elasticity and stiffness. Thrives on heavy-duty service... resists abrasive action of rough materials... maintains size and shape of openings.

Learn its advantages on your operation. Write Robins for details today. No obligation.

**ROBINS
SCREEN CLOTH**

**ROBINS CONVEYORS
Division**
Hewitt-Robins Incorporated
PASSAIC, NEW JERSEY

When inquiring specify CP 3303—see handy form pages 2-3

Uniform Separation

**FOOD PRODUCTS — CHEMICALS — METALLICS
NON-METALLIC MINERALS**

The new model GAYCO Centrifugal air separator makes possible the uniform and increased recovery of fine material within a range of 40 to 400 mesh.

- Greater Capacity
- Cleaner Trailings
- 99% Through 325 Mesh
- 25% to 30% greater recovery of fines
- Not affected by variation in speed or rate of feed



**The Gayco Separator
Handles
SUCH PRODUCTS AS**

BAGASSE
CASEIN
COCOA POWDER
COTTONSEED
MEAL
FERTILIZER
GROUND HAIR
GROUND OATS
GUM ARABIC
SOY FLOUR
SPICES
SUGAR

Universal Road Machinery Co.

RUBERT M. GAY DIVISION 117 Liberty St. New York 6, N. Y.
Canadian Representative: F. H. Hopkins & Co., Ltd., Montreal
FACTORY & LABORATORY, KINGSTON, N. Y.

When inquiring specify CP 3304—see handy form pages 2-3

NOVEMBER, 1947

"Chemical Show" Preview

pump is fully adjustable from maximum to zero during operation.

★

Rubicon Company, Philadelphia, Pa.

HYDROGEN SULFIDE ANALYZER

This automatic recording instrument is primarily for use in detecting small amounts of hydrogen sulfide in chemical processes.

★

St. Regis Sales Corporation, New York, N. Y.

BAG FILLING MACHINE

Display will feature a high speed bag filling machine (Model 301 FB) and various multiwall paper valve bags used with this equipment.

★

Claude B. Schneible Co., Detroit, Mich.

WET DUST, FUME, VAPOR COLLECTORS

A Multi-Wash collector with transparent shell will demonstrate operating principles.

★

Schutte & Koerting Co., Philadelphia, Pa.

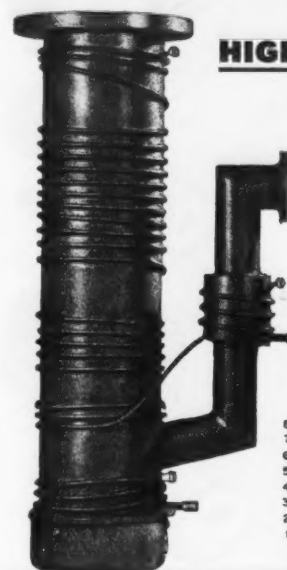
HYDRAULIC EJECTOR

Working model will demonstrate operation in entraining granular solids; dissolving, neutralizing and

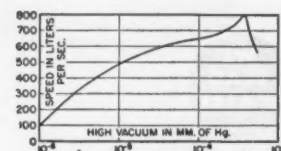
**For New High Speeds in the
Lower Pressure Ranges...**

the MCF-700

HIGH VACUUM PUMP



When you need high pumping speeds in pressures down to 10^{-6} mm of mercury, the new MCF-700 will meet your specifications exactly. This pump delivers from 100 to 500 liters per second in the range of 10^{-6} to 10^{-5} mm—a performance unduplicated by any other pump. The chart below shows its performance.



For further information on the MCF-700 and other DPI High Vacuum pumps write



Vacuum Equipment Division
DISTILLATION PRODUCTS, INC.
Rochester 13, N. Y.

When inquiring specify CP 3305—see handy form pages 2-3

Refrigeration compressors are as important as the fisherman in bringing you fresh fish and tempting fillets. After the fish is caught, it is quickly precooled by refrigeration. Then it is stored in the ship's hold, at near-freezing temperature, and rushed to port. Here, in compressor-cooled warehouses, processors prepare it for distribution. It is stored in temperature-controlled rooms for "in-the-round" delivery. Or it is quick-frozen, cut into fillets and packaged as a choice frozen delicacy. It is delivered under refrigeration to neighborhood markets...sold from compressor-equipped display cases. You store it safely in your refrigerator. Baker compressors help maintain the quality of fish from the moment it is caught until it is ready for use—in homes all over the world.

Baker

ICE MACHINE CO., Inc., South Windham, Me., and Omaha, Neb.

When inquiring specify CP 3306... see information request blank, pgs. 2-3



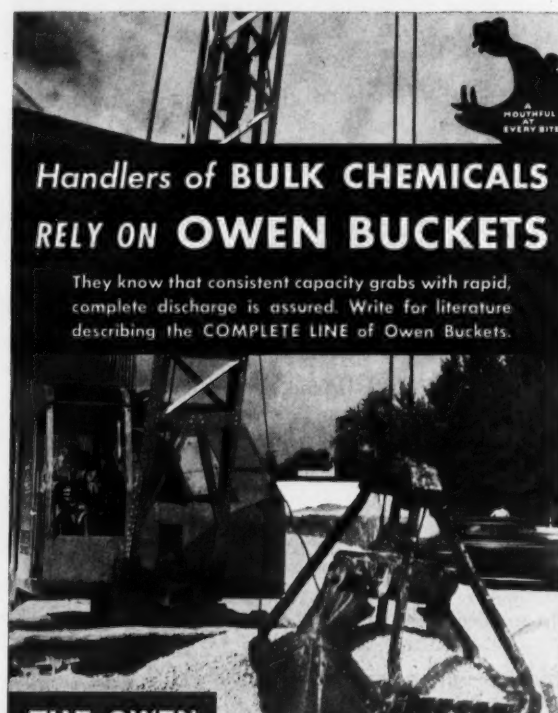
HAERING ORGANIC GLUCOSATES
control
SCALE, CORROSION, ALGAE

Write on your letterhead for
"H-O-H WATER STUDIES"

WE READ WATER

D. W. HAERING & CO., Inc.
GENERAL OFFICES:
205 West Wacker Drive, Chicago 6, Ill.

When inquiring specify CP 3307 — see handy form pages 2-3



**Handlers of BULK CHEMICALS
RELY ON OWEN BUCKETS**

They know that consistent capacity grabs with rapid, complete discharge is assured. Write for literature describing the COMPLETE LINE of Owen Buckets.

THE OWEN BUCKET COMPANY
7050 Breakwater Avenue, Cleveland, O.
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"Chemical Show" Preview

conveying. Related uses are in creating vacuum and as a rate of flow instrument for flow measurement. Steam ejectors and rotameters will also be shown.

★

Scientific Glass Apparatus Co., Bloomfield, N. J.

GAS ANALYSIS APPARATUS

The Minter Thermal Conductivity Gas Analysis instrument uses a standard of two known gases and determines electronically the percentage of gases in a ternary mixture.

★

Sharples Chemicals, Inc., Philadelphia, Pa.

EMULSIFYING AGENTS, INTERMEDIATES, PLASTICIZERS

Typical of products of interesting application in this exhibit are: Ethylethanolamines 161 — a mixture of Ethylmonoethanolamine and Ethyldiethanolamine used in preparing emulsifying agents and suggested applications such as "self-polishing" floor waxes, emulsion paints and cosmetics.

★

T. Shriver & Co., Harrison, N. J.

HORIZONTAL PRESSURE FILTER

Features of new, portable enclosed horizontal plate, pressure type tank filter complete with simple hydraulic closing mechanism and complete pumping unit will be demonstrated.

★

W. W. Sly Mfg. Co., Cleveland, Ohio

DUST COLLECTORS

A line of small dust collectors in six sizes — capacities up to 6000 cu. ft. air per minute — are so designed that an abundance of filter cloth can be used despite the very compact nature of these units.

★

Socony Vacuum Oil Co., New York

WAX EMULSION VARNISH REPLACEMENT

Wax emulsion (PD 778-R) used as replacement in one application of underglaze decalcomanias to semi-vitreous ceramic ware. Completely eliminates a whole manufacturing step, the intermediate or hardening kiln fire.

★

Sparkler Manufacturing Co., Mundelein, Ill.

HORIZONTAL PLATE FILTERS

New filter for use where filtering area of from 50 to 150 square feet is needed.

★

Standard Scientific Supply Corp., New York, N. Y.

SOAPLESS DETERGENT

Features of Alconox — wetting agent, detergent, washer will be shown.

★

F. J. Stokes Machine Co., Philadelphia, Pa.

COMBINATION HIGH VACUUM PUMP

Combining, in one unit, a high vacuum rotary me-

CASE HISTORY NO. 19
One in a series of factual experiences telling how and why various American manufacturers use St. Regis Packaging System.

Here are the results this company got with a St. Regis Packaging System

1. Elimination of dust.
2. Economies in per-ton packaging cost.
3. Elimination of the nuisance of refilling used bags.
4. Increased packaging output per man-hour.
5. Better product protection.
6. Approval by customers.

Class of Product Packed

CEMENT	FERTILIZER
CHEMICALS	FOOD
FEEDSTUFFS	MISCELLANEOUS ✓

Product Characteristics

ABRASIVE ✓	GRANULAR
CORROSIVE	HEAVY ✓
DELiquesCENT	HYGROSCOPIC
FLUFFY	MOIST
FREE-FLOWING ✓	VISCOUS

St. Regis Packaging Systems

are designed to meet a wide range of product requirements and plant layouts. Packers are available in a variety of sizes and types, with filling speeds as high as twenty-four 100-lb. bags per minute — with one operator. Nearly 400 commodities — rock products, fertilizers, chemicals, foods, and feeds — are now being packaged in sturdy, low-cost multiwall paper bags.

How mechanized bag filling took the dust out of old-fashioned methods at New Jersey Pulverizing Company

Up until fifteen years ago the New Jersey Pulverizing Company, Pinewald, N. J., was packaging its screened and pulverized sand products in the usual heavy, old-fashioned fabric bags. Not only were these bags expensive, but the packaging operation was slow and exceedingly dusty.

Today the company is using seven 100-GF and two 100-FL St. Regis valve bag filling machines and multiwall paper valve bags. Dust is reduced to a minimum, costs are cut, output is increased.

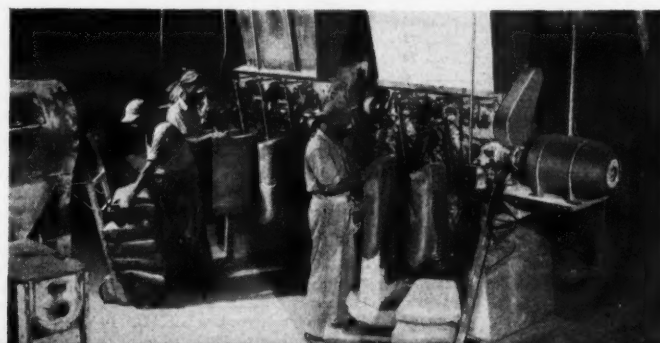
The company also finds that Multiwalls, whether in storage or in transit by freight car or by truck, keep their product dry and free from caking. This is important to many of the company's customers.

A. B. Schlesinger, president of the company, comments on the economy of his St. Regis Packaging System: "It cuts the initial

investment in containers and reduces the per-ton packaging cost so that some of the present-day increased cost of labor and of plant operation is absorbed. Multiwalls have greatly speeded up our packaging. Moreover, we like Multiwalls because the nuisance of having old bags refilled is eliminated. Our customers appreciate the one-trip paper bag, too."

Says Benjamin Fisher, plant superintendent: "The St. Regis System solved our problem of dust in the packaging operation, and workers found paper bags easier to handle."

Mail the coupon for a detailed report, with pictures, of the New Jersey Pulverizing Company's use of St. Regis multiwall paper bags and bag filling machines. It may suggest how a St. Regis System can save money for you and give you better packaging.



Old paper bags are moved by hand-trucks directly from truck or box car. Multiwalls protect the product and maintain proper penetration in transit and in storage.

One worker can operate two 100-FL St. Regis bag filling machines insure a high-speed, low-cost packaging operation.

Mail this coupon for the complete story

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Without obligation, please send me full details regarding "Case History" No. 19, outlined above.

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"Chemical Show" Preview

chanical fore pump and diffusion pump complete with control panel, gauges, etc., this equipment will highlight the exhibit.

Swenson Evaporator Co., Harvey, Ill.

SPRAY DRYER & EVAPORATOR

Model will demonstrate features of this equipment. Photographs will also show evaporators, filters and crystalizers.

Trent, Inc., Philadelphia, Pa.

HEATING ELEMENTS for Kettles, Jackets, etc.

All sizes of these elements will be shown. Their application does not necessitate attachment to surface of kettle, eliminating carbonization for heating of materials.

Trent Tube & Mfg. Co., East Troy, Wis.

INCONEL TUBING

Display will emphasize selection available from large diameter — 30 inches O.D. — thin wall, .172 inch maximum down to small diameter (1/8 inch O.D.) stainless steel and Inconel tubing.

Triangle Package Machinery Co., Chicago, Ill.

AUGUR POWDER PACKER

This Model U-1, completely re-engineered, is almost entirely automatic. Container is placed on platform and machine fills difficult materials up to 30 packages per minute. Foot pedals eliminated.

Tri-Clover Machine Co., Kenosha, Wis.

STAINLESS STEEL INDUSTRIAL FITTINGS

Fittings to be shown include stainless steel welding fittings and conical end fittings for light gauge O.D. tubing.

Tube Turns, Inc., Louisville, Ky.

WELDING FITTINGS

On view will be a new line of Schedule 10, feather-weight, standard, and extra strong steel fittings; welding fittings of other metals and a new welding ring.

United States Stoneware Co., Akron, O.

CHEMICAL RESISTANT PLASTIC COATING

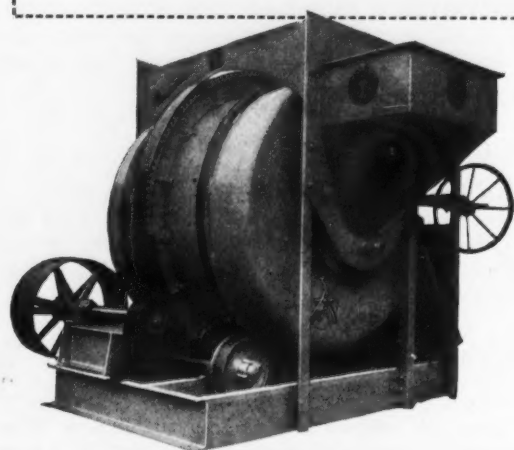
Display will reveal how this new liquid coating "Tygoflex" builds up thicknesses to 1/4 inch in a single application and protects intricate shapes.

Yale & Towne Mfg. Co., Philadelphia, Pa.

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Discussed in This Issue - - MACHINERY, EQUIPMENT and MATERIALS

Use this "quick-locator" when you want information on a specific type of machine, equipment or material. Everything discussed in this issue is given here, with page references. After checking the information here, if you want more data you can write manufacturer direct . . . or turn to pgs. 2-3 and use the handy "Information Request Slip." This is a special service provided by the Publisher . . . no obligation or charge, of course. The Publishers contact the proper manufacturers for you . . . information comes to you direct.



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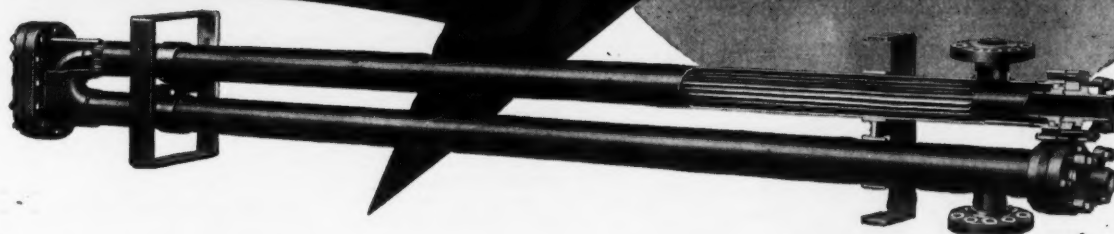
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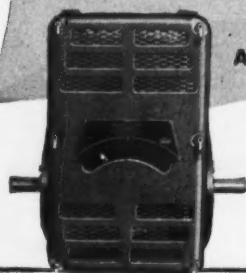
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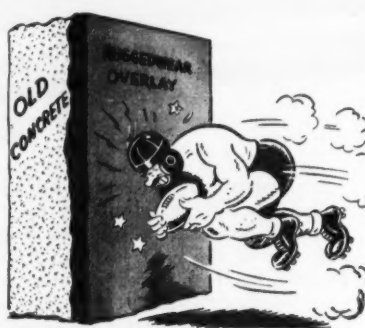
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"That's Interesting"

Rubber Controls Off on 30,000 Items

The Commerce Department recently announced discontinuance of controls on 30,000 items which required manufacturers to use synthetic rubber in production.

Alloy Frozen to -320° for Use as Die Material

An alloy of bismuth, tin and lead is so soft that it melts in hot water. To give it necessary strength to withstand pressures encountered when the material is used as die material for making experimental parts Ford, Motor Co. research engineers freeze it.

The alloy is frozen in liquid nitrogen with a Fahrenheit temperature of 320 degrees below zero. This freezing action intensifies the hardness of the surface from a consistency comparable to dried putty to the far greater hardness of ordinary brass. About ten stampings are secured between chilling. Soft metal dies are produced and sample parts obtained in from 24 to 48 hours.

Laboratory Ink

A laboratory ink that is non-corrosive, non-poisonous and non-inflammable may be applied with pen or brush. It can be used to identify glass negatives, microscopic slides, enameled trays, etc. Also Gardener-Holdt or RPC Viscosity tubes. With addition of glycerine, the ink may be used with rubber stamp. Special wax containers are not necessary and after drying, the ink is not affected by common laboratory solvents. (Stewart Research Laboratory Box 173 Benjamin Franklin Station, Washington, D. C.)

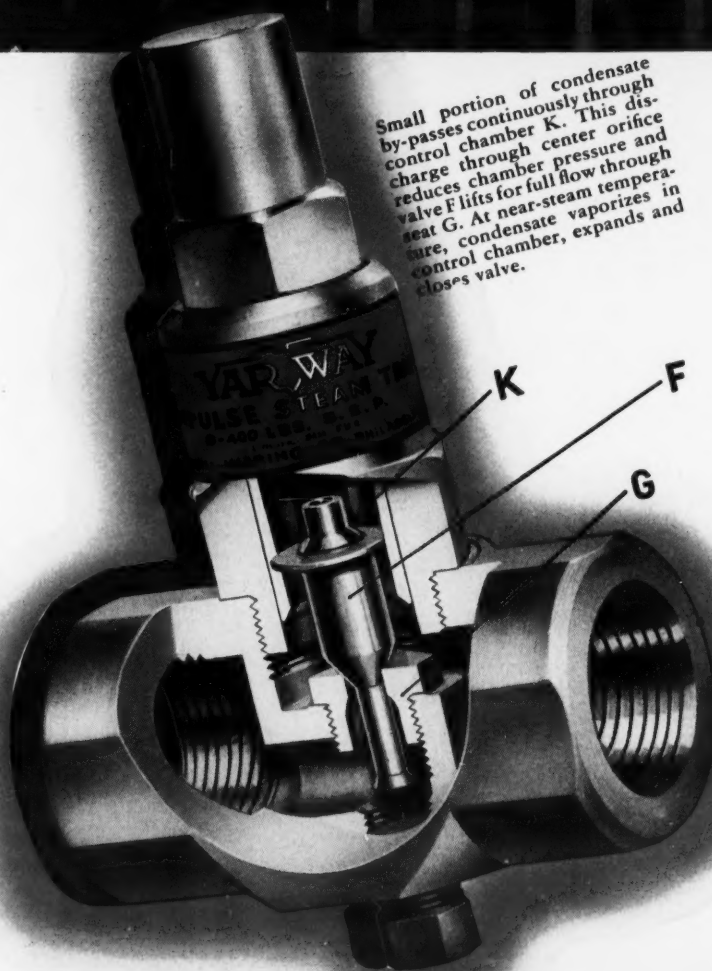
Mass Production of Silver Nitrate Crystals

Production of silver nitrate crystals by evaporation in open porcelain dishes is replaced by an improved process which pumps the white particles from a tank much as a threshing machine discharges grain. The system makes crystals continuously and dries them in a few minutes. The silver, dissolved in nitric acid, is constantly stirred in the 1000 gallon crystalizer tanks by circulating pumps. Crystals form in the lower part of the tank, are removed and then whirled in steel baskets.

Redissolved in distilled water, they go through the crystallizing process once more. Then, whirled until they are only damp, they are placed in a drying drum and then funneled into stainless steel barrels. The process is the development of Eastman Kodak Co., Rochester, N. Y.

For more information on product at right, specify CP 3314
see information request
blank between pages 2-3.

SIX and How They Work!



Small portion of condensate by-passes continuously through control chamber K. This discharge through center orifice reduces chamber pressure and valve F lifts for full flow through seat G. At near-steam temperature, condensate vaporizes in control chamber, expands and closes valve.

Six Yarway Impulse Steam Traps—doing a big job draining condensate from a battery of autoclaves used for experimental extraction of tanning materials. They are typical of the two hundred Yarway Traps installed on a variety of steam equipment at the big Eastern Regional Research Laboratory of the United States Department of Agriculture.

Why were Yarways selected for this important work? For the same reason that over 525,000 Yarways have been bought in less than 10 years for use throughout all industry. *They get steam equipment hotter, sooner . . . and keep it hot.*

In addition, maintenance is easy. There is only one moving part, a simple valve. Small size speeds installation . . . no extra supports are needed. Yarways are good for all pressures without change of valve or seat. And finally, it often costs no more to install Yarway Impulse Traps than to repair older types.

See your nearest Mill Supply dealer, or write for Bulletin T-1739.

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